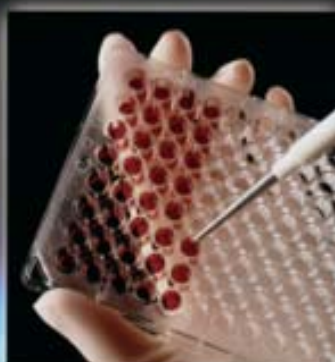




UNITED STATES AIR FORCE



COUNTER-CHEMICAL BIOLOGICAL RADIOLOGICAL
NUCLEAR & HIGH-YIELD EXPLOSIVE [C-CBRNE]

MASTER PLAN

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United States Air Force Counter-Chemical, Biological, Radiological, Nuclear, and High-yield Explosive (C-CBRNE) Master Plan

30 June 2004



**Directorate of Strategic Security
Deputy Chief of Staff, Air and Space Operations
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Washington, DC**

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Foreword

The growing threat posed by weapons of mass destruction (WMD)—specifically chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) weapons—is one of the most serious challenges facing the Air Force today. A CBRNE attack has the potential to produce devastating results, including unacceptable loss of life and the degradation of core missions. In today’s security environment where our adversaries are increasingly likely to employ these unconventional weapons to circumvent or degrade the US military’s superior conventional capabilities, the Air Force cannot afford to ignore or marginalize the importance of this threat.

The Air Force has taken on the challenge to more fully develop and institutionalize required Counter-CBRNE (C-CBRNE) capabilities, enabling the success of the aerospace mission in the 21st Century battlespace. The service must be capable of preventing adversary acquisition or development of CBRNE weapons and their delivery means through proliferation prevention efforts, neutralizing an adversary’s CBRNE capabilities through counterforce, diminishing the effectiveness of CBRNE threats via active and passive defense, and must be prepared to restore essential operations and services in managing the consequences of CBRNE attacks.

The *USAF C-CBRNE Master Plan* outlines an integrated, coordinated approach to C-CBRNE. This approach focuses on developing capabilities to meet operational needs while maximizing Joint cooperation and leveraging existing institutions and capabilities in the process, creating a force that owns the battlespace and dissuades and deters adversaries from developing, acquiring, and using CBRNE weapons.

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Executive Summary

This *USAF C-CBRNE Master Plan* is approved for execution and coordinates the United States Air Force's efforts over a five-year period to establish, maintain, improve, and evaluate its readiness to accomplish the full suite of C-CBRNE missions and to operate in a CBRNE environment.

The Chief of Staff, United States Air Force, approves the execution of this plan and directs the development of implementation roadmaps and an annual report on progress.

The threat from CBRNE weapons has emerged as one of the most critical challenges facing the US today. The consequences of not addressing the CBRNE threat are dire because the asymmetric nature of these weapons provides adversaries with an inordinate economic and military advantage unless the US is fully prepared. The Air Force's freedom to operate, ability to respond and to counterattack, to deploy expeditionary air and space forces and sustain the fight, and to deny adversary gains from CBRNE use are all at risk. The Air Force must be able to survive, fight, and win in a CBRNE threat environment. The vision of the Air Force C-CBRNE program and of this Master Plan is to ensure that the combatant commanders have the ability to counter the CBRNE threat and to continue to apply air and space power in the execution of their missions despite CBRNE threats.

C-CBRNE exists as a continuum against a range of threats, from isolated terrorist incidents, through low-intensity conflicts, to major theater war. The Air Force must provide combatant commanders the air and space capabilities to counter and operate through all levels of the CBRNE threat. This plan addresses these capabilities, regardless of their place on the threat continuum.

To address the CBRNE threat effectively, the Air Force must be able to provide the US government and combatant commanders tools to perform five distinct capabilities:

- **Proliferation Prevention.** Prevent and deter adversaries from acquiring CBRNE-related technology, materials and expertise
- **Counterforce.** Defeat the full-suite of CBRNE capabilities before they can be used against US interests, while minimizing collateral damage
- **Active Defense.** Defeat the full-suite of CBRNE targets en route to US interests, while minimizing collateral damage
- **Passive Defense.** Survive and sustain an acceptable level of operations in post-CBRNE attack environments
- **Consequence Management.** Deliberately respond to the use and effects of CBRNE incidents and take the actions required to restore essential operations and services in a permissive environment¹

This plan outlines the principles, approach, and methodology for the Air Force to develop and sustain these five capabilities. The principles underlying the program are:

- **Capabilities** based
- **Total** force inclusive
- **Integrated** offense and defense
- **Operational** focus
- **Interoperability** with Joint and Combined forces
- **Combination** of materiel and non-materiel solutions
- **Integrated** execution through new or existing institutional mechanisms

To execute this plan, the Air Force will leverage its key strengths in organizing, training, and equipping a force capable of meeting the CBRNE threat.

All procedures, organization, training, and equipment produced by this program are designed to achieve an operational objective. The methodology starts with a thorough

¹ The Air Force role in supporting this capability is narrower. However, the required Air Force capabilities to support consequence management have yet to be defined.

understanding of what an adversary can realistically accomplish using CBRNE weapons. It then builds on this understanding through operational analyses that seek to determine the impacts CBRNE will have on Air Force operations. The next stage is to baseline current capabilities to overcome or mitigate these impacts, and identify shortfalls in capability. Finally, an appropriate solution set, usually a mix of materiel and non-materiel solutions, is identified and action is taken to implement that solution set. Current capabilities must be maintained, in addition to addressing shortfalls identified through this plan.

The tasks required to develop and implement these solutions fall into four categories: define, organize, train, and equip. The plan directs the Air Force C-CBRNE Council to develop an implementation plan, or roadmap, for each of these categories. These roadmaps address tasks that are to be accomplished over the next 12-18 months and are updated and revised annually:

- **Define Roadmap.** Tasks to develop an understanding of the CBRNE threat and appropriate solutions
- **Organize Roadmap.** Tasks to develop doctrine, procedures, and organizations that combine Air Force assets, platforms, and personnel into an effective fighting force capable of operating in a CBRNE threat environment
- **Train Roadmap.** Tasks to institutionalize the education, training, and exercises that provide Air Force personnel with the knowledge, skills, and experience required to execute their missions in a CBRNE threat environment
- **Equip Roadmap.** Tasks to provide the materiel solutions required for the execution of the Air Force's core missions in a CBRNE threat environment

1 Why C-CBRNE is Vital to the Air Force

The threat from CBRNE weapons has emerged as one of the most critical challenges facing the United States and its Allies today. Due to the combination of their destructive power, lingering effects, and, with the exception of nuclear weapons, relatively low acquisition costs, CBRNE weapons are attractive asymmetric alternatives for many state and non-state actors to use against US forces or interests. Furthermore, nonproliferation efforts have not completely stemmed the spread of CBRNE materials, technologies, and weapons. As a result, there is an increased probability that these dangerous weapons are within the grasp of unfriendly states and terrorists, against whom traditional policies of deterrence and containment may not be effective.

The consequences of not effectively addressing the CBRNE threat are dire. The Air Force's freedom to operate, ability to respond and to counterattack, to deploy expeditionary air and space forces, to sustain the fight, and to deny adversary gains from CBRNE use may be called into question unless C-CBRNE capabilities are fully developed and employed.

The CBRNE threat has a fundamental impact on the ability of the Air Force to execute each and every one of its concepts of operations. This was evidenced in the recent Air Force Capabilities Review and Risk Assessment (CRRRA) process, which identified a significant number of C-CBRNE capabilities as critical enablers of each of the major Air Force Concepts of Operation (CONOPS).

Overall, the CBRNE threat poses a significant operational challenge. Implementation of the C-CBRNE Master Plan will provide the strategy, doctrine, training, and equipment to enable Air Force operational success despite the threat or use of these weapons.

2 Purpose, Authority, Application, and Scope of the Master Plan

2.1 Purpose

This *USAF C-CBRNE Master Plan* directs and coordinates the United States Air Force's contribution to the Department of Defense's layered C-CBRNE capability, which underwrites US ability to prevail in any conflict in which an adversary possesses or uses these weapons. This plan directs and coordinates Air Force efforts to establish, maintain, improve, and evaluate its readiness to conduct C-CBRNE operations both in support of homeland defense and abroad. It also directs input into Air Force wide efforts such as each of the major Air Force CONOPS and the Air Force Corporate Structure, as well as Joint programs.

2.2 Authority

The Chief of Staff, United States Air Force, approves execution of this Master Plan.

This plan executes tasks required, both explicitly and implicitly, by a wide range of directive publications. Among them:

- *The National Security Strategy of the United States of America*, September 2002
- *The National Strategy to Combat Weapons of Mass Destruction*, December 2002
- Homeland Security Presidential Directive 5 (HSPD-5), *Management of Domestic Incidents*
- Deputy Secretary of Defense Memorandum, *Preparedness of U.S. Military Installations and Facilities Worldwide Against Chemical, Biological, Nuclear, and High-Yield Explosive Attack*
- Chairman of the Joint Chiefs of Staff (CJCS) Memorandum 3500.04C, *Universal Joint Task List*
- DoD Directive (DoDD) 2000.12, *DoD Antiterrorism Program*
- JP 3-07.2, *Joint Tactics, Techniques, and Procedures for Antiterrorism*
- JP 3-40, *Joint Doctrine for Combating Weapons of Mass Destruction*, Pre-Approval Draft

- JP 3-11, *Joint Doctrine for Operations in Nuclear, Biological, and Chemical (NBC) Environments*
- Air Force Vision 2020, *Global Vigilance, Reach and Power*
- Air Force Doctrine Document (AFDD) 2-1.8, *Counter Nuclear, Biological, and Chemical Operations*
- *Air Force Transformation Flight Plan*
- Air Force CONOPS
- *Air Force Task List*

The National Security Strategy of the United States of America states:

We must deter and defend against the threat [of WMD] before it is unleashed. We must ensure that key capabilities—detection, active and passive defenses, and counterforce capabilities—are integrated into our defense transformation and our homeland security systems. Counterproliferation must also be integrated into the doctrine, training, and equipping of our forces and those of our Allies to ensure that we can prevail in any conflict with WMD-armed adversaries.

This Master Plan is consistent with and supports national, Joint, and Air Force doctrine as promulgated by the *National Strategy to Combat Weapons of Mass Destruction*, JP 3-40, JP 3-11, and AFDD 2-1.8.

2.3 Application and Scope

The need to counter the threat or use of CBRNE weapons applies across the full spectrum of air and space operations. Air Force C-CBRNE capabilities exist to support combatant commanders' efforts to deter, dissuade, and prevent adversaries, including state and non-state actors, from developing, acquiring, or using these weapons. They also include:

- Intercepting and denying use of CBRNE materials, technology, and expertise
- Destroying these weapons before they can be deployed or used

- Disrupting and limiting an attack
- Surviving, restoring, and sustaining operations if attacked, and
- Deliberately responding to the use and effects of CBRNE incidents and restoring essential operations and services in a permissive environment

C-CBRNE counters a range of threat scenarios, from isolated terrorist use of weapons of mass destruction or deliberate release of toxic industrial materials, through the use of CBRNE against military forces in low-intensity conflicts or a major theater war. The Air Force must provide the combatant commander with the air and space capabilities to counter and operate through all levels of the CBRNE threat. This plan addresses these capabilities, regardless of their place on the continuum.

This Master Plan encompasses all Air Force C-CBRNE activities and programs over the next five years and applies to all Air Force military and civilian personnel.²

This plan does not take precedence over Joint programs, initiatives, or processes, Air Force directive publications, or public laws, including Public Law 103-160. It does, however, outline and direct Air Force implementation of and major contributions to these Joint activities.

New capabilities, including training and equipment, should build upon the strengths of our current technology to create integrated systems where most efficient and expeditious. New capabilities should not be developed at the expense of current C-CBRNE program sustainment.

This plan does not address strategic nuclear deterrence capabilities. While the ability to respond to CBRNE use with overwhelming force is a key element in the overall deterrence strategy, this capability does not contain CBRNE-unique elements and is addressed by the Air Force CONOPS.

² Including Air Force Reserve Command (AFRC) and Air National Guard (ANG) units and members.

This plan supersedes the *Air Force Counterproliferation Master Plan* of 1997.

3 Where We Are; What We Have Accomplished

Background

The Air Force has significantly improved its C-CBRNE capabilities since Defense Secretary Les Aspin announced the Counterproliferation Initiative in 1993 and since the publication of the Counterproliferation Master Plan in 1997. In fact, since most of the objectives outlined in the 1997 Master Plan have now been accomplished, a new plan is needed to drive additional improvements to the Air Force C-CBRNE capability over the next five years.

Immediately following the Cold War, the Air Force had lowered its C-CBRNE posture. Operations in Mission Oriented Protective Posture (MOPP) 4 were viewed as expensive, difficult, and not likely to be required. The operational community divested itself of responsibility for air base operations, relegating it to a support function. In the realm of counterforce operations, WMD targets were viewed as just one among many different target sets and thus did not require unique intelligence, targeting, or ordnance. In addition, Public Law 103-160, *The National Defense Authorization Act for Fiscal Year 1994*, assigned the Army as the executive agent to coordinate and integrate the chemical and biological defense research, development, and acquisition programs for all the Services. In accordance with Public Law 103-160, all research, testing, development, and initial acquisition of CBRN defense equipment must be done by the Joint community.³ This further decreased Air Force emphasis on C-CBRNE operations.

By the mid-1990s, many studies had concluded that the Air Force could not operate in a CBRNE environment without significant operational degradation, placing the accomplishment of the war plan at risk. For example, the 1997

Quadrennial Defense Review (QDR) assessed Air Force sortie degradation rates in a chemically contaminated environment at 40 percent. It was in this environment that the Chief of Staff directed implementation of the 1997 Master Plan, focusing first on countering the chemical weapons threat.

Organizing to Address C-CBRNE

The 1997 Master Plan was the Air Force's first step in organizing the efforts of disparate communities toward developing a counterproliferation operational capability. Since then, the Air Force has reversed the decline in counter-chemical warfare (C-CW) operational preparedness and has executed a number of initiatives that have led to significant improvements in Air Force preparedness to operate in CBRNE threat environments.

A key step toward improving C-CBRNE operational capability was the development of Air Force C-CBRNE operational doctrine. Published in 2000, AFDD 2-1.8, *C-NBC Operations*, provided an operational framework for counterproliferation, based on four mutually reinforcing pillars: Proliferation Prevention, Counterforce, Active Defense, and Passive Defense. Since then, national strategy and Joint doctrine have added a fifth pillar, Consequence Management.

Another milestone has been the establishment of an operational lead for C-CBRNE operations—an outcome of the C-CBRNE discussion at the Vice Chief of Staff Forum, held in January 2003. This resulted in standing up the C-CBRNE Council to coordinate efforts across the C-CBRNE community, and the establishment of AF/XOS⁴ as the operational lead for Air Force C-CBRNE efforts.

The Air Force has made great strides in improving C-CBRNE passive defense capabilities through non-materiel solutions, such as developing tactics, techniques, and procedures (TTPs) and CONOPS for passive defense efforts. These efforts have been

³ High-yield explosive weapons were not included in Public Law 103-160.

⁴ Formerly known as AF/XON

institutionalized through integration in policy and doctrine and training programs.

One key initiative was the refinement of the C-CW element of the C-CBRNE CONOPS, a set of standards and TTPs for operations in chemically contaminated environments. As a result of OPLAN concerns, the Air Force took a close look at how to improve capabilities against chemical threats, with PACAF leading the effort to refine air bases operational procedures in a chemically contaminated environment. That effort culminated in refining the Air Force's approach to countering the chemical threat and implementing it service wide, with the goal of a full operational capability in 2004. Analysis indicates that by adopting the new procedures it is possible to reduce sortie degradation from the 40 percent range to 5-15 percent.⁵

The Air Force institutionalized the C-CW element of the C-CBRNE CONOPS through publication of AFMAN 10-2602, *Nuclear, Biological, Chemical, and Conventional (NBCC) Defense Operations and Standards* in December 2002. This manual provides integrated standards and the common core TTPs necessary to survive attacks, recover missions, and sustain operations in wartime CBRNE as well as conventional attack environments. Refined attack warning signals and MOPP and a revised NBCC Defense training course that incorporated the tenants of the C-CW element of the C-CBRNE CONOPS were also developed and published. The revised training course was fielded in December 2002 and is used to conduct Warrior Week NBCC Defense training during Basic Military Training and to train a target audience of over 400,000 Total Force Airmen every 15 months.

⁵ The 2001 QDR CIWG accepted the Air Force input that using the C-CW CONOPS procedures, sortie degrade could be reduced to the range of 5 to 15 percent, not 30 to 40 percent as stated previously. This capability was demonstrated through exercises at Osan Airbase, ROK, and AF modeling and war-gaming efforts have been modified to reflect this change.

In 2002, the Air Force combined the Air Base Operability and Disaster Preparedness Programs and established the Full-Spectrum Threat Response (FSTR) Program. The FSTR Program is the single installation program for planning, organization, and response to physical threats. It includes response to major accidents and natural disasters, the passive defense aspects of CBRNE attacks, terrorist attacks, hazardous material emergency response, conventional attacks, and support for consequence management activities. Guidance for this program can be found in *AFPD 10-25, Full Spectrum Threat Response*.

The Air Force has also made key contributions to improving installation capabilities to respond to and recover from terrorist attacks through the Air Force WMD Installation Training and Exercise Program, the Department of Defense (DoD) Joint Service Installation Pilot Program, and the DoD Installation Protection Program (a.k.a. the Guardian Program). The Air Force began execution of the DoD Joint Service Installation Pilot Program (JSIPP) in FY03 to enhance CBRNE response capability at three of its CONUS installations. The Air Force is supporting JSIPP through the initial baseline assessments, emergency responder equipment purchases, and on-site and reach-back emergency response training and exercise assistance.

The follow-on program to JSIPP is the Guardian Program. Guardian is a DoD managed program that begins in FY04 and will provide 200 DoD installations with an integrated CBRN protection and response capability through FY09. The focus is to protect personnel, maintain critical military operations, and restore critical operations as quickly as possible following a terrorist attack, while reducing the resource impact (personnel, time, and funding) on the installation.

New CBRNE passive defense and WMD response equipment, such as the Joint Service Lightweight Integrated Suit Technology ensemble, the Joint Firefighter's Integrated Response Ensemble (J-FIRE) for firefighters and explosive ordnance disposal personnel, the M22 Automatic Chemical Agent Detector Alarm, the

Chemical Air Processing System, the DoD Biological Sampling Kit, the interim Transportable Collective Protection System, and the Portal Shield Biological Detector, are beginning to reach field units in operationally significant quantities. The Air Force is currently managing the fielding of many Joint NBC systems, to include new individual and collective protection, the Light NBC Reconnaissance System, several new chemical and biological point and standoff detectors/monitors, and a suite of individual, equipment, and area decontamination capabilities.

In addition, the Air Force has also made key gains in the areas of counterforce and active force protection. The Air Force's science and technology organizations—specifically the Air Force Research Lab (AFRL), and the Nuclear Weapons and Counterproliferation Agency (AFNWCA)—have played a key role in developing solutions and technologies to improve capabilities in the area of counterforce, through the Agent Defeat program, developing technology to neutralize hardened and deeply-buried targets, and producing modeling and simulation tools for decision-makers and strike planners.

In the area of Agent Defeat, the Air Force has played a lead role in the Agent Defeat Warhead project, which was selected by the DoD in 2002 as an Advanced Concept Technology Demonstration project. The objective of the project is to develop and demonstrate a warhead with a payload designed to destroy, neutralize, immobilize, or deny an adversary access to biological or chemical agents with little or no collateral damage. While this is a technical solution that may take years to acquire and institutionalize, the effort is well underway, and has already been fielded in certain cases.

The Air Force has also contributed to the development of modeling and simulation tools for CBRNE target planning that help to identify potential CBRNE targets and to understand the effects of strikes on them. One such technology is the Counterproliferation Analysis and Planning System, a tool for modeling

proliferation activities to identify proliferants' critical processing steps and production activities. Additionally, the Air Force continues to develop integrated tools, such as Simulated Environment and Response Execution Nesting Tool (SERPENT), to improve CBRNE target planning capabilities by modeling the effects of CBRNE strikes.

Way Ahead

Although the Air Force has made considerable progress in developing a C-CBRNE capability and has many valuable efforts underway, much remains to be accomplished. Efforts to develop the Counter-Biological Warfare (C-BW) and Counter-Radiological Warfare (C-RW) elements of the C-CBRNE CONOPS have begun, but are not yet complete. In the bio-defense arena, the CSAF chartered a Bio-defense Task Force that developed an interim Bio-defense Plan and an Action Plan of over 50 items to help the Air Force improve its ability to counter the biological threat. The C-CBRNE Council will carry the work of the Bio-defense Task Force forward and the identified action items have been integrated as part of this Master Plan. Similarly, there is an initiative underway to refine existing Air Force approaches to countering the radiological threat; the way ahead is captured in this plan.

Efforts at determining the requirements for refining our approach to counter nuclear and high-yield explosive weapons have yet to begin in earnest. Interdiction and counterforce operational concepts are similarly in an embryonic stage, although the Air Force has been active in developing agent defeat technologies and modeling tools to enable WMD targeting and assessment. Finally, the threat environment has also changed considerably since 1997; the specter of terrorism and CBRNE use by non-state actors is on the rise. These factors have required the Air Force to place a greater emphasis on the development of a more balanced approach to C-CBRNE, to include proliferation prevention, counterforce, active and passive defenses, and consequence management, while at the same time maintaining current capabilities.

It is in this environment that a renewed Master Plan is required to carry forward and further develop and sustain the ongoing passive defense efforts, complete integration of the counterforce and active defense pillars into a coherent and complete counterproliferation capability, assess Air Force responsibilities in consequence management, and address the changed threat environment.

4 Objective

4.1 Vision

The United States Air Force will provide the combatant commander air and space capabilities to fight and win in a CBRNE threat environment.

The vision of the Air Force C-CBRNE program and of this Master Plan is to ensure that combatant commanders have the ability to counter the CBRNE threat and to continue to apply air and space power in the execution of their missions despite CBRNE threats. Dominance of the air and space battlespace is a key component of United States military and national power. The Air Force must continue to provide the combatant commander air and space assets that will achieve this dominance in the face of any threat.

4.2 Desired End State

The ultimate goal of this Master Plan is for the Air Force to treat CBRNE as a threat environment in which the service must be able to operate, rather than as a specific type of operation. The objective of this plan is to give the Air Force the enabling capabilities to perform its missions through and against the challenges of adversaries armed with CBRNE capabilities.

If the Air Force, in conjunction with the other Services, succeeds in achieving this end state, it will successfully support the National Security Strategy goals of *Assure*, *Dissuade*, *Deter*, and *Defeat* in the C-CBRNE arena.

A force that owns the CBRNE battlespace will dissuade and deter adversaries from developing, acquiring, and using CBRNE weapons. The Air Force will achieve this through maintaining the ability to defeat CBRNE development programs via proliferation prevention and counterforce efforts and by demonstrating our robust active and passive defense capabilities, and our ability to minimize or mitigate the effects of a CBRNE incident through consequence management.

5 Plan Assumptions

5.1 C-CBRNE Program Principles

To achieve the desired end state, this plan pursues a strategy based on the following principles:

- **Capabilities Based.** The C-CBRNE approach will focus on developing required capabilities, linked to the Air Force CONOPS and CRRAs, instead of threat- and platform-centric planning and programming.
- **Total Force Inclusive.** C-CBRNE must involve all Air Force organizations and infuse all missions and plans. C-CBRNE cannot be viewed as a discrete set of actions executed by a cadre of specialists in isolation of the mission. Reserve Component and mission essential civilians and contractors (including foreign nationals) must be prepared to operate in CBRNE environment. While some organizations and specialties will continue to carry a relatively greater responsibility for C-CBRNE than others, the responsibility is diffused throughout the Air Force.
- **Integrated Offense and Defense Approach.** Deterring and managing the CBRNE threat must be accomplished with a layered offensive and defensive capability that combines proliferation prevention, counterforce, active defense, passive defense, and consequence management. These efforts work in concert to ensure the Air Force is prepared to operate against adversaries armed with CBRNE weapons. None of these five capabilities alone can guarantee the preservation and success of Air Force operations in a CBRNE environment, but together all five can help

to preserve Air Force dominance of the battlespace.

- **Operational Focus.** The operator must lead the effort to define operational standards and to integrate across functional areas to support operational standards. Solutions produced by this plan must have a positive and measurable impact on operational capability.
- **Interoperability with Joint and Combined Forces.** C-CBRNE operations will be executed in Joint and Combined environments. The Air Force must work with the other Services, Joint Staff, other DoD agencies, and allied and Coalition partners to develop interoperable solutions to counter the CBRNE threat. This plan will seek Joint solutions where appropriate, but will also develop Air Force-specific solutions for requirements unique to this service.
- **Combination of Materiel and Non-Materiel Solutions.** Since no technologies exist that will defeat the CBRNE challenge alone, the Air Force must take the necessary steps to develop and institutionalize the best mix of materiel and non-materiel solutions for countering the threat. Non-materiel solutions include doctrine, TTPs, organization, personnel, and their education, training, and exercise programs, while materiel solutions are equipment. Because of the long development and procurement timelines for materiel, a focus on non-materiel solutions may reduce the threat and increase operational capability in the short-to-mid term.
- **Integrated Execution Through New or Existing Institutional Mechanisms.** As an essential enabler of all Air Force missions, the Air Force C-CBRNE program must leverage full-scope integration into new or existing organizations and institutional mechanisms to achieve its goals of advocacy and execution of C-CBRNE capabilities and requirements.

To execute this plan, the Air Force will focus on its three US Code Title 10 responsibilities:

- **Organize.** Develop doctrine, procedures, and organizations that combine Air Force assets, platforms, and personnel, into an effective fighting force capable of operating in a CBRNE threat environment
- **Train.** Institutionalize education, training, and exercises (ETE) that provide Air Force personnel with the knowledge, skills, and experience required to execute their missions in a CBRNE threat environment
- **Equip.** Provide the materiel solutions required for the execution of the Air Force's core missions in a CBRNE threat environment, or support and advocate through Joint processes, where applicable, in accordance with Public Law 103-160

5.2 Solutions Development

5.2.1 Air Force Approach

All procedures, organization, ETE, and equipment should be designed to accomplish an operational objective, namely to permit the Air Force to degrade or otherwise mitigate the threat posed by a CBRNE-armed adversary sufficiently to execute its primary missions and protect its forces. The following is the general methodology used by the Air Force C-CBRNE community to develop operationally focused solutions for countering the CBRNE threat.

5.2.1.1 Understand the Science and the Threat Environment

In order to develop a sound approach to C-CBRNE, the Air Force needs to continually improve its understanding of the hazard environment, including agent effects, behavior, and persistency, and the threats that the service is most likely to face. By reviewing existing data and conducting new tests the Air Force and Joint organizations will produce a sound scientific foundation for the C-CBRNE program based on realistic assessments of the threat. This foundation can then be used to develop

operationally focused solutions. The C-CBRNE community will undertake research and development initiatives, leveraging appropriate Air Force and Joint science and technology organizations to maximize synergy and collaboration and to reduce redundancy.

5.2.1.2 Conduct Operational Analyses

The Air Force must combine this scientific and technical foundation with robust analyses of the impacts that CBRNE attacks are likely to have on operations. The benefits of this approach are significant, as evidenced by the large operational gains already made in the area of C-CW.

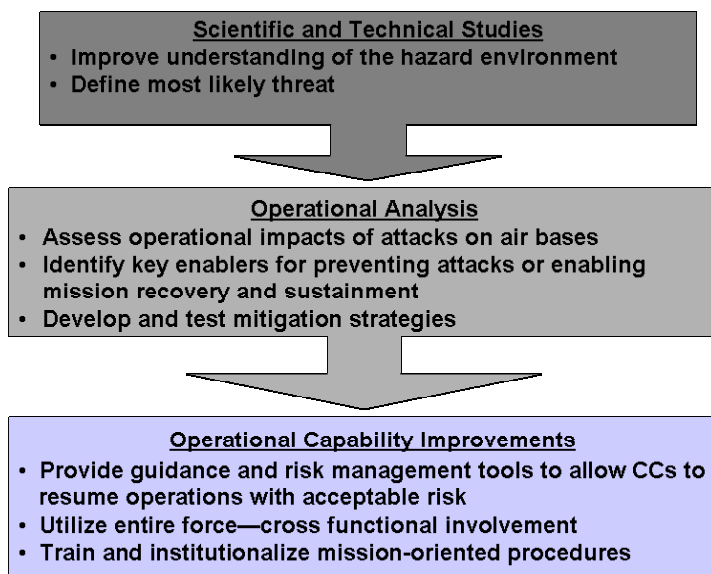


Figure 1 - Air Force Approach for Improving C-CBRNE Capabilities

Prior to 1997, the Air Force had invested too little in scientific and operational analyses to address the CBRNE threat. As a result, the service was forced to adopt a generalized approach based on assumptions that were not grounded in the Air Force's concepts of operations. In the case of the chemical threat, this led to unacceptable degradation of operational capability. Since that time, new analyses of chemical agent persistency data indicate the likelihood of less-than-worst-case outcomes on Air Force operations. Leveraging this new data, the Air Force was able to develop an approach—the C-CW element of the

C-CBRNE CONOPS—that significantly reduced operational degradation.

The Air Force will continue to conduct operational analyses to better understand the operational impacts of attacks on air bases, as well as identify the key enablers that impact mission recovery and sustainment. The Air Force will also develop and test mitigation strategies to maximize the operational pay-off in mission effectiveness.

5.2.1.3 Baseline Current Capabilities and Identify Capability Shortfalls

In order to accurately determine what needs to be done, the Air Force must baseline existing operational capabilities and identify any gaps or shortfalls in meeting identified requirements. For the purposes of this Master Plan, the required capabilities were identified by MAJCOMs and key Air Staff offices based on Combatant Commander requirements. Air Force subject matter experts identified the capability shortfalls. The C-CBRNE required capabilities and shortfalls must be integrated and advocated into Air Force and Joint requirements and acquisition processes, such as the Air Force CONOPS and the Joint Requirements Office (JRO) and Joint Program Executive Office (JPEO). Over the long-term, the Air Force must be able to assess and quantify operational readiness for C-CBRNE operations so commanders and senior leaders can have a clear picture of force readiness.

5.2.1.4 Defining Solution Sets

The Air Force must then **define** the appropriate solution sets to meet operational requirements and mitigate the identified capability shortfalls. These solution sets will combine elements from three broad categories. **Organizational** solutions will encompass personnel, unit structures, policy, doctrine, and tactics. **Training** solutions will develop and institutionalize the mechanisms for preparing Air Force personnel for operations in a CBRNE environment. **Equipping** solutions will develop

and procure the required equipment and materiel. The Master Plan sets out tasks that will develop and implement solution sets, beginning in section 5.3.

All threat agents and their associated delivery means are different and, as a result, different approaches must be used to counter them—there is no “one-size-fits-all” solution. Each threat must be countered with a balanced approach that takes into account Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF).

Many efforts to determine the appropriate solution sets will require research into understanding the CBRNE acquisition cycle, targets, environment, and effects. Where one solution set does not meet operational requirements, another must take its place. For example, until a biological agent detector that meets operational requirements is fielded, a set of procedures (i.e., medical surveillance or more robust intelligence triggers) must take its place. When such a detector is fielded, the solution set will be altered to reduce the reliance on medical surveillance procedures and make the appropriate adjustments in training. The Air Force has demonstrated this balanced approach in past efforts. For instance, the C-CW element of the C-CBRNE CONOPS represents a set of procedures that allows a base to achieve a significant operational payoff—the ability to keep a sortie rate of 90 percent in a post chemical attack environment—despite considerable shortfalls in detection capability.

5.2.1.5 Implement Solutions

The final stage of the methodology is the advocacy, acquisition, development, testing, fielding, and institutionalization of the solutions that meet the operational requirements. The C-CBRNE Council will implement the objectives of this Master Plan through four implementation plans or roadmaps (published separately). In addition to addressing shortfalls, the Air Force must continue to maintain current capabilities.

5.2.2 The Roadmaps

The four roadmaps to improve operational capability are: Define, Organize, Train, and Equip.

These roadmaps outline the way in which the Air Force will improve and sustain C-CBRNE capabilities by defining the problem, and organizing, training, and equipping for operations in a CBRNE threat environment. These roadmaps aim to develop and implement solutions for shortfalls in capabilities. Roadmaps may drive solutions within one capability or they may combine functionally similar tasks that cut across multiple capabilities. For example, the establishment of a lifecycle C-CBRNE ETE approach will institutionalize C-CBRNE improvements across all of the C-CBRNE pillars.

The roadmaps include the specific tasks and actionable sub-tasks that constitute a solution set, the office of primary responsibility (OPR) for ensuring each task is accomplished, and defined metrics to judge the successful completion of each task. Offices of collateral responsibility (OCR) may also be assigned as appropriate.

The roadmaps are living documents and will be revised every 12 to 18 months to reflect progress, emerging changes in threats (e.g., next generation agents), lessons learned from earlier efforts, and to take advantage of newly feasible technologies.

The first of these roadmaps, **Define**, consists of those tasks required to understand and bound the CBRNE problem. It includes defining the problem; conducting underlying research on agents, delivery mechanisms, and threats; and scoping and formulating potential solutions. This is similar to the process the Bio-defense Task Force undertook to identify the 58-plus action items the Air Force must address to improve bio-defense capability. The other three roadmaps consist of tasks that directly implement identified solutions to improve operational capabilities.

The **Organize** Roadmap comprises tasks that lead to non-materiel solutions to the CBRNE threat; specifically, it contains those tasks that result in new procedures (doctrine, policies, TTPs), organizational structures or mechanisms, and personnel requirements and resources.

The **Train** Roadmap consists of those tasks that lead to changes and improvements in ETE. It includes institutionalizing curricula, skills, and exercise objectives to create a lifecycle approach to preparing Airmen to meet the CBRNE threat. This will enable all Air Force personnel to learn C-CBRNE principles, to train on functional C-CBRNE TTPs, and to demonstrate an integrated, whole-base operational capability assessed through realistic exercises.

The **Equip** Roadmap consists of those tasks that lead to materiel solutions and includes tasks geared toward improving the C-CBRNE Research, Development, Testing, and Evaluation (RDT&E) infrastructure and institutionalizing

the mechanisms by which the Air Force integrates its C-CBRNE materiel requirements into existing Air Force and Joint processes.

Within these roadmaps, the tasks leading to institutionalization of the C-CBRNE solution sets are particularly important. The ability to conduct C-CBRNE activities must be infused throughout all Air Force missions and enabling capabilities. This plan will take advantage of existing processes and organizational frameworks, as appropriate, to implement the solution sets. Ultimately, the results of the roadmaps will be institutionalized into publications and standard Air Force processes.

Figure 2 depicts this overall methodology by which the Air Force will develop and implement C-CBRNE solutions.

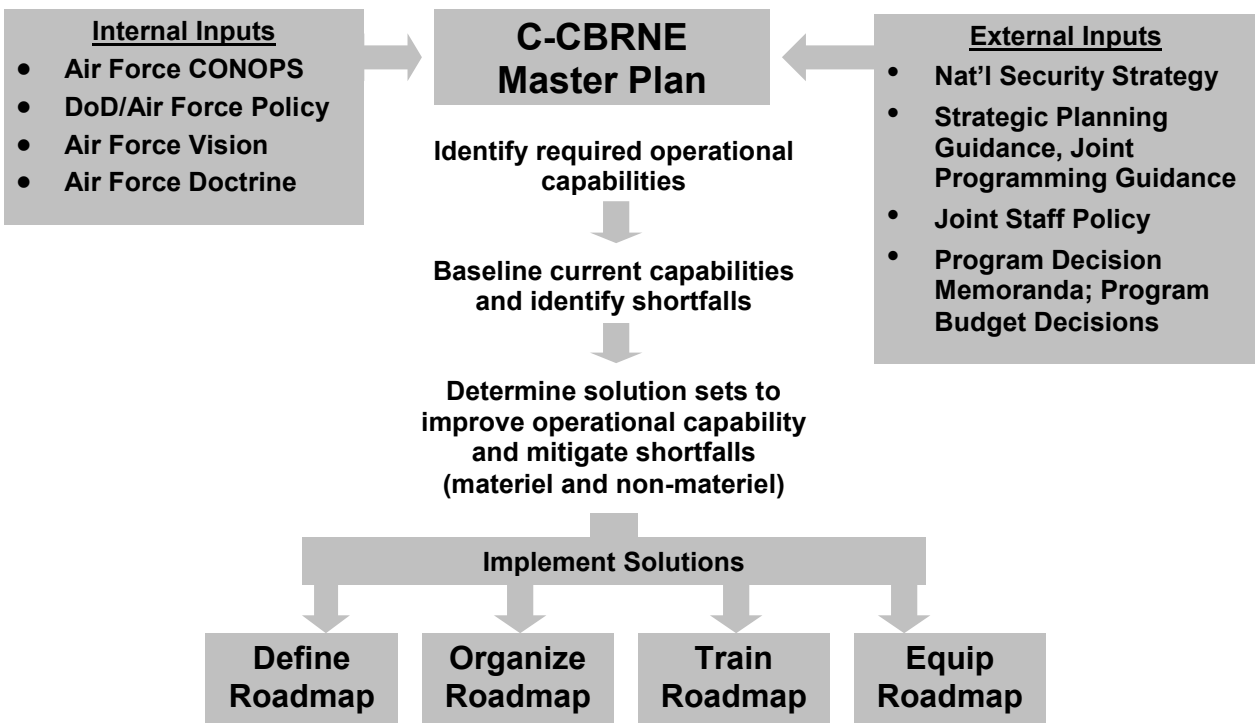


Figure 2 - Air Force C-CBRNE Master Plan Methodology

5.3 *Developing an Integrated C-CBRNE Capability*

Countering CBRNE requires a layered approach that encompasses offensive and defensive capabilities across the full operational spectrum, from peacetime engagement to full-scale war. C-CBRNE capabilities are divided into five “pillars” or capability sets—Proliferation Prevention, Counterforce, Active Defense, Passive Defense, and Consequence Management—which, if fully developed and employed in a coordinated and integrated fashion, will allow the Air Force to counter CBRNE weapons effectively.

The five-pillar structure is consistent with the framework outlined in other directive Joint and national publications.



Figure 3 - Air Force C-CBRNE Pillars

Proliferation Prevention	Termed <i>nonproliferation</i> in national and Joint doctrine. Those actions (e.g., diplomacy, arms control, multilateral agreements, threat reduction assistance, and export controls) taken to prevent the proliferation of weapons of mass destruction that seek to dissuade or impede access to, or distribution of, sensitive technologies, material, and expertise. (JP 3-40 Pre-approval draft (PAD))
Counterforce	The employment of strategic air and missile forces in an effort to destroy, or render impotent, selected military capabilities of an enemy force under any of the circumstances by which hostilities may be initiated. (JP 1-02) For purposes of this document, counterforce refers especially to enemy CBRNE capabilities.
Active Defense	The employment of limited offensive action and counterattacks to deny a contested area or position to the enemy. (JP 1-02) With respect to active defense against CBRNE threats, it is the detection, diversion, or destruction of enemy CBRNE weapons and delivery means while en route to their targets.
Passive Defense	Measures taken to reduce the vulnerability and minimize the effects of WMD employed against key host nation installations, any US installation and facility, and ports of embarkation and debarkation. Combatant commanders should initiate WMD consequence management planning and integration. Combatant commanders should employ measures that may include early and avoidance warning, operations security, dispersion, individual and collective protection, WMD medical response, detection, reporting, and decontamination. (JP 3-40 PAD) For the purposes of this document, the goal of passive defense is to enable forces to survive and operate in a CBRNE-contaminated environment.
Consequence Management	The deliberate response to the use and effects of a CBRNE incident and the actions required to restore essential operations and services in a permissive environment. (AFDD 2-1.8) (draft)

Figure 4 - Air Force C-CBRNE Pillar Definitions

The five pillars must be viewed as an integrated whole; the elements of offensive strikes, active air and ground defenses, passive defense, and consequence management must work in concert to ensure the Air Force is prepared to operate against CBRNE armed adversaries.

Success in preventing an adversary from acquiring or developing CBRNE capabilities will reduce the requirements for counterforce and active and passive defenses. This is a key consideration in the 2002 National Security Strategy, which emphasizes more aggressive means of minimizing proliferation through interdiction and stresses cooperation with Allies.

Degrading or defeating the adversary's CBRNE capability through effective proliferation prevention efforts, and counterforce targeting and strike operations reduces the burden placed on air and ground active defense elements. If active defense elements are able to deny, divert, or destroy inbound CBRNE attacks, there is less

of a burden on CBRNE passive defense assets, thereby making it easier for forces to sustain operations in contaminated environments. If CBRNE attacks reach the fixed Air Force operating sites, forces must be organized, trained, and equipped to continue mission-critical operations in a potentially contaminated environment and to support the restoration of other essential services. Finally, the ability to execute capabilities in all five pillars may reduce the utility of CBRNE weapons, thus dissuading potential adversaries from acquiring them in the first place.

To achieve an operationally relevant result, a combination of capabilities may be required. For example, combining adequate detection and protection capabilities with effective medical, decontamination, and contamination avoidance processes will allow a fixed base to sustain operations in a contaminated environment. Any one of the capabilities alone would be insufficient to accomplish this goal.

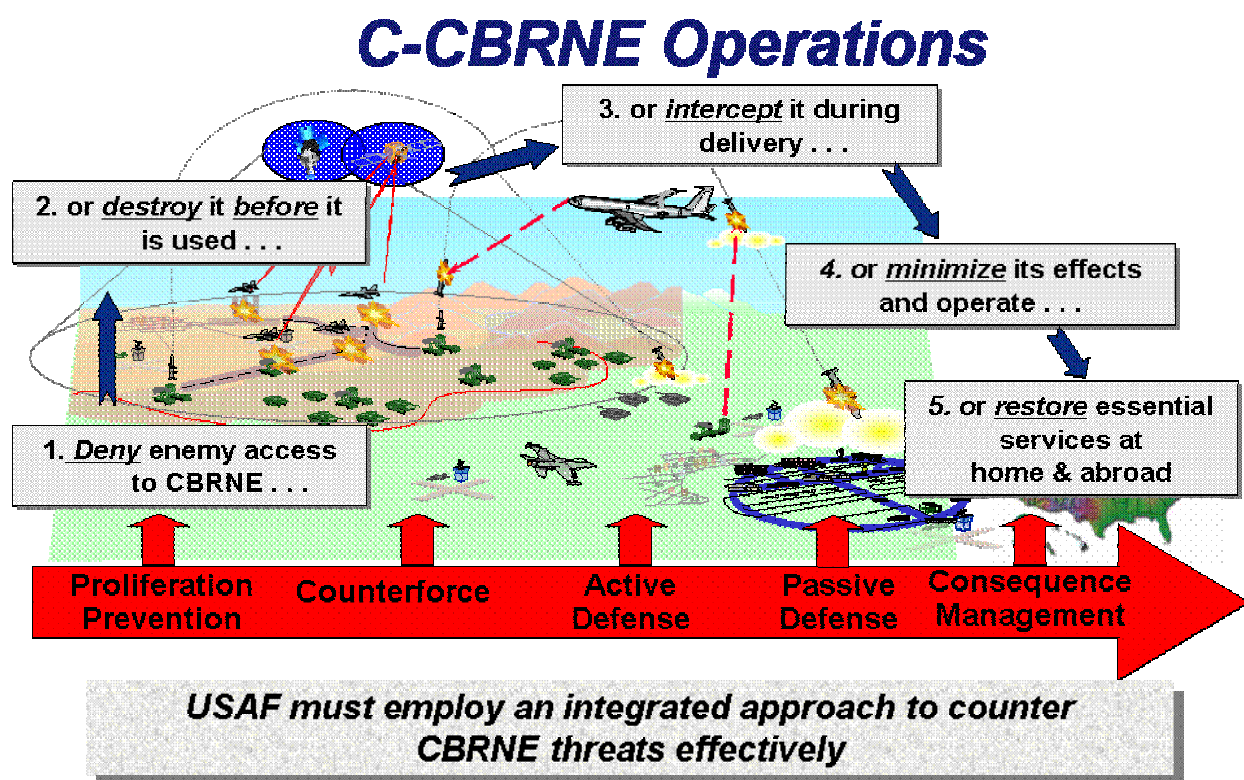


Figure 5 - C-CBRNE Operational Picture

The following are the Air Force C-CBRNE required capabilities, based on Air Force and Combatant Commander requirements, (CONPLANs, OPLANs, etc.), and the tasks identified by the Air Force C-CBRNE community to mitigate existing shortfalls (listed in Annex C) and by so doing, to improve operational capabilities.⁶ They were derived through inputs from all MAJCOMs and key Air Staff offices.

1.	Prevent and deter the acquisition of CBRNE-related technology and materials
1.a.	Detect, monitor, and attribute CBRNE acquisition, development, and use
1.b.	Demonstrate the ability to operate seamlessly with Joint, Combined, Coalition, and other partners in a CBRNE environment
1.c.	Support US Government nonproliferation initiatives
1.d.	Interdict CBRNE technology and materials
2.	Defeat the full-suite of CBRNE materials and capabilities before they can be used against US interests while minimizing collateral damage in the process
2.a.	Defeat CBRNE leadership and command and control (C2) targets
2.b.	Defeat CBRNE delivery platforms and vehicles
2.c.	Defeat CBRNE-related facilities and infrastructure
2.d.	Defeat in-transit CBRNE materials
3.	Defeat the full-suite of CBRNE targets en route to US interests while minimizing collateral damage in the process
3.a.	Neutralize ballistic missiles
3.b.	Neutralize airborne/air-breathing threats
3.c.	Neutralize CBRNE armed surface forces
4.	Enable and sustain operations in a CBRNE environment with minimal degradation of combat capability
4.a.	Prepare and shape the battlespace
4.b.	Detect and identify CBRNE use
4.c.	Shield personnel, equipment, and facilities from CBRNE contamination and effects
4.d.	Operate through the attack and quickly restore pre-attack operational capabilities
5.	Deliberately respond to the use and effects of a CBRNE incident and restore essential operations and services in a permissive environment.
Enabler: Appropriate and timely C4ISR is an essential cross-cutting capability	

Figure 6 – Summary of Required C-CBRNE Capabilities

⁶ The required capabilities and shortfalls were approved and submitted by MAJCOM CVs. MAJCOM and Air Staff C-CBRNE subject matter experts discussed the capabilities and shortfalls and developed the tasks during two workshops held in June and October 2003.

5.3.1 Proliferation Prevention: Required Capabilities

Proliferation prevention capabilities are those that enable the US to prevent and deter adversaries from acquiring CBRNE-related technology, materials, and expertise. The Air Force plays a key role in supporting United States Government (USG) and Joint nonproliferation initiatives, including treaties and agreements, diplomatic efforts, and threat reduction programs. Further, the Air Force contributes to efforts that dissuade and deter potential adversaries from acquiring CBRNE capabilities. This can be accomplished through denying adversaries the ability to benefit from a CBRNE attack by demonstrating the ability to hold CBRNE materials, technologies and expertise at risk and to sustain Air Force, Joint, and Combined operations seamlessly in contaminated environments.

The operational capabilities that constitute this overarching capability set include:

- Support USG and Joint efforts to detect, monitor, and attribute CBRNE acquisition, development, and use
- Demonstrate the ability to operate seamlessly with Joint, Combined, and Coalition partners in a CBRNE environment
- Support USG nonproliferation initiatives, including treaties and agreements, multinational control regimes, the threat reduction programs, etc., by providing inspection, monitoring, verification, and enforcement support
- Support Joint and Coalition initiatives to interdict CBRNE technology, materials, and expertise

5.3.2 Proliferation Prevention: Shortfalls

See Annex C, C-CBRNE Capabilities Shortfalls Annex.

5.3.3 Proliferation Prevention: Tasks

Insufficient access to actionable intelligence has hampered the Air Force capability to detect, monitor and attribute CBRNE acquisition, development, and use. As a result, a major area of focus will be in the area of intelligence, to

include better defining operational requirements, and then establishing mechanisms in cooperation with the intelligence community to communicate and meet these requirements. Another major area of focus is to increase cooperation with other Services, Allies, Coalition, and partners to prevent the development, acquisition, or transfer of CBRNE materials, technologies, or expertise through nonproliferation and interdiction efforts, in accordance with the requirements of the *National Security Strategy* (2002). The Air Force will continue to fully comply with US commitments to nonproliferation treaties and agreements, confidence building measures and threat reduction programs.

To improve capability in these areas, the Air Force will execute the following tasks:

Define

- Determine Air Force operationally relevant C-CBRNE intelligence, surveillance, and reconnaissance requirements and improve and streamline intelligence integration and dissemination
- Identify Air Force requirements to support the interdiction of CBRNE materials, technologies, and expertise and develop a plan to address gaps

Organize

- Track Air Force contributions to DoD efforts to monitor CBRNE acquisition and development
- Continue to ensure Air Force compliance with USG and DoD nonproliferation requirements
- Engage with other Services to ensure a common approach to C-CBRNE operations through Joint policy and doctrine
- Engage with Allies and Coalition partners to ensure a common, interoperable approach to C-CBRNE operations

Train

- Develop a life-cycle ETE approach for relevant proliferation prevention skill-sets

(e.g., CBRNE intelligence and imagery analysis, etc.)

- Engage with Allies and other Services to ensure a common approach to C-CBRNE operations through Joint training and exercises

Equip

- Acquire and field interoperable equipment and share standards with Allies and Coalition partners

5.3.4 Counterforce: Required Capabilities

Counterforce capabilities are those that provide Combatant Commanders with the ability to defeat the full-suite of CBRNE capabilities before they can be used against US interests, while minimizing collateral damage. The Air Force must have the capability to conduct counterforce activities preemptively. This capability includes the effective identification and characterization of targets, planning and executing attacks on CBRNE targets using in-theater or CONUS based assets, providing decision-makers with confident assessments of collateral damage hazards, probability of target defeat, and timely and accurate battle damage assessments (BDA) following operations against CBRNE targets. As the US moves toward a more proactive counterproliferation approach, there will likely be an increased burden on minimizing collateral effects of C-CBRNE strikes and shortening the kill-chain.

The operational capabilities that constitute this overarching capability set include:

The ability to defeat or hold at risk the following target types, while providing the ability to minimize collateral effects:

- CBRNE leadership and C2 targets, both fixed and mobile. This includes time-critical, hardened, and deeply buried targets
- CBRNE delivery platforms and vehicles, both fixed and mobile (time-critical)
- CBRNE-related facilities and infrastructure, to include facilities that are hardened and/or deeply buried

- In-transit CBRNE materials or weapons

5.3.5 Counterforce: Shortfalls

See Annex C, C-CBRNE Capabilities Shortfalls Annex.

5.3.6 Counterforce: Tasks

Counterforce plays an increasingly significant role as directed by the National Security Strategy (2002). To provide commanders with CBRNE strike capabilities, the Air Force must support development of the requisite munitions and platforms, the procedures to ensure these assets are correctly employed, the tools to understand the effects of strikes on CBRNE targets (to facilitate better planning and to arm decision-makers with accurate risk assessments), and the ability to quickly analyze the effectiveness of a given strike.

To improve capability in these areas, the following tasks will be executed:

Organize

- Develop policy, doctrine and TTPs for C-CBRNE-unique aspects of Find, Fix, Track, Target (F2T2), and Engage
- Develop policy, doctrine and TTPs for C-CBRNE-unique aspects of the Assess portion of the kill-chain (improve capabilities to conduct real-time BDA)
- Integrate counterforce plans into TTPs, policy and guidance, and any existing CONOPS, to include Air and Space Operations Center (AOC) procedures
- Improve processes for embedding operational requirements in C-CBRNE science and technology

Train

- Develop a life-cycle ETE approach for relevant counterforce skill-sets (e.g., targeteers, weaponeers, intelligence analysts)

Equip

- Acquire and field materiel to support C-CBRNE unique aspects of F2T2
- Acquire and field materiel to support C-CBRNE unique aspects of BDA
- Develop, maintain, and validate planning tools for C-CBRNE effects, modeling, and campaign analysis (to include nodal analysis and collateral damage assessments)
- Acquire and field interoperable counterforce-related equipment
- Acquire and field the range of weapon options required to accurately and effectively neutralize, destroy, deny access, or immobilize CBRNE targets (RDT&E to fielding)
- Acquire and field a range of weapon options to neutralize (render agents ineffective at the molecular/cellular level) the effects of chemical and biological agents

5.3.7 Active Defense: Required Capabilities

Active Defense capabilities are those that enable the Air Force to support combatant commanders in defeating the full-suite of CBRNE targets—both ground and aerial threats—en route to US interests, while minimizing collateral damage in the process, and to provide warning of incoming threats to enable more effective passive defense responses.

The operational capabilities that support this overarching capability set include:

The ability to defeat or hold at risk the following target types, while providing the ability to minimize collateral damage:

- Ballistic Missiles with CBRNE payloads in any phase of flight (subset of Defensive Counterair (DCA))
- CBRNE-carrying airborne, air-breathing assets (to include cruise missiles, unmanned aerial vehicles (UAVs), and aircraft) (This can be considered a subset of DCA)
- Ground forces armed with CBRNE targeting fixed-base sites, or US and allied assets involved in mobile operations, such as convoys

5.3.8 Active Defense: Shortfalls

See Annex C, C-CBRNE Capabilities Shortfalls Annex.

5.3.9 Active Defense: Tasks

The focus of improvements in this area is on developing an increased understanding of the Air Force role in neutralizing ground threats to bases and on developing means of neutralizing CBRNE air-breathing and missile threats while minimizing collateral damage. To a large degree, improving capabilities in this area will involve bringing together disparate Air Force communities, as well as Joint actors (specifically the Army, with its Patriot capabilities, and the Missile Defense Agency (MDA)).

To improve capability in these areas, the following tasks will be executed:

Define

- Determine Air Force roles and organizational responsibilities for defeating air and ground inbound CBRNE threats and develop appropriate TTPs
- Explore requirement for en-route detection and defeat of cruise missiles and low-observable UAVs

Organize

- Develop policy, guidance, and procedures related to implementation of the Airborne Laser (ABL) in CBRNE active defenses
- Coordinate Air Force missile defense efforts and engage with Joint missile defense programs (e.g., MDA)

Train

- Develop a life-cycle ETE approach for relevant active defense skill-sets, including ground active defense (e.g., force protection training on indicators and warning for likely biological and chemical weapons)

5.3.10 Passive Defense: Required Capabilities

Passive defense capabilities are those that enable the Air Force to survive and sustain an

acceptable level of operations in post CBRNE attack environments.

The operational capabilities that support this overarching capability set include:

- **Shape** and prepare the battlespace
 - Collect and fuse hazard and risk information throughout the battlespace to disseminate to commanders at all levels. This includes providing modeling and simulation capabilities and warning and reporting networks
 - Assess and react in a timely manner to actual and potential impacts
 - Monitor indigenous populations for diseases of operational importance to support ongoing threat assessments
- **Sense** CBRNE use
 - Detect and identify agents
 - Provide medical surveillance
 - Diagnose exposure to agents
- **Shield** personnel, equipment, and facilities from CBRNE contamination and effects
 - Protect individuals from CBRNE effects and exposure, both prior to (through medical prophylaxes) and during CBRNE events
 - Provide collective protection from CBRNE effects and exposure
 - Protect equipment from CBRNE effects and exposure
- **Sustain** operations through CBRNE attack and quickly restore pre-attack operational capability
 - Decontaminate individuals, equipment, and fixed sites
 - Treat and transport or quarantine contaminated or contagious patients
 - Execute functional operations in contaminated environments

5.3.11 Passive Defense: Shortfalls

See Annex C, C-CBRNE Capabilities Shortfalls Annex.

5.3.12 Passive Defense: Tasks

Although there has been significant progress in this area over the last decade, much remains to be done. The focus of improvements over the next five years is to consolidate and institutionalize the gains made thus far – in particular by implementing existing CONOPS, institutionalizing education, training, and exercises Air Force-wide, better integrating the disparate Air Force organizations in support of common operational objectives, and establishing appropriate inspection criteria. At the same time, the Air Force will strive to increase scientific understanding of the CBRNE hazard environment. This understanding will form the foundation for improved detection, protection, and decontamination capabilities as well as TTPs and will allow the Air Force to more effectively advocate for its operational requirements in the Joint requirements and acquisition process.

Current programs addressing passive defense must be sustained monetarily and supported with appropriate infrastructure and manning. New capabilities, including training and equipment, should build upon the strengths of our current technology, creating integrated systems whenever possible. New initiatives should not be developed at the expense of existing C-CBRNE capabilities, but rather as an evolution of the C-CBRNE program. All new developments will continue to comply with US commitments to nonproliferation treaties and agreements and within the guidelines of Joint doctrine.

To improve capabilities in these areas, the following tasks will be executed:

Define

- Refine the Air Force understanding of the CBRNE hazard environment

- Assess C-CBRNE capabilities required for homeland security and direct integration into publications as appropriate
- Determine effective means of decontaminating equipment, to include airframes and direct formulation of policy, doctrine, and TTPs, as appropriate
- Assess need for a Counter-Nuclear Warfare (C-NW) element of the C-CBRNE CONOPS, and develop and implement, if appropriate
- Define counter-high-yield explosive weapons (C-HYEW), assess need for C-HYEW element of the C-CBRNE CONOPS, and develop and implement, if appropriate

Organize

- Clarify roles and responsibilities at all levels
- Engage with and provide input to Joint and national C-CBRNE passive defense programs (e.g., installation protection programs) to ensure Air Force operational requirements are addressed, and support such programs as required
- Incorporate CBRNE defense initiatives, policy, guidance, and TTPs into all relevant Air Force and Joint publications
- Support the development, refinement, and implementation of all C-CBRNE doctrine, policy, and guidance, as well as refinement of conflicting issues (i.e., resolve conflicting guidelines between C-CW and C-BW requirements)
- Streamline and improve communication of C-CBRNE related expertise and publications
- Refine and implement the C-CW element of the C-CBRNE CONOPS for operations in contaminated environments and ensure it remains current with emerging threats
- Develop and implement the C-BW element of the C-CBRNE CONOPS
- Develop and implement the C-RW element of the C-CBRNE CONOPS
- Refine C-CBRNE related Unit Type Codes (UTCs)
- Refine policy, guidance, and procedures for equipment decontamination

- Develop capability and procedures for transporting contaminated/contagious casualties, remains, samples, personnel, and cargo
- Improve processes for embedding operational requirements in C-CBRNE science and technology
- Monitor and support contributions of Air Force laboratories to Joint passive defense capabilities
- Review shortfalls identified by the JRO CBRN Defense and take actions as appropriate
- Develop and refine tools for planning and modeling attacks and assessing hazards and operational impacts, working with the JRO as appropriate
- Assess need and advocate for additional manpower through Capabilities Based Manpower Determinant (CBMD) process. Focus on career fields that have gained additional duties and have existing manpower shortfalls. Within the non-medical passive defense area, these include AFSC 3E7XX, Fire Protection; 3E8XX, Explosive Ordnance Disposal; 3E9XX, Readiness; and 4B0X1, Bioenvironmental Engineering. Within the medical corps, these include AFSC 4B0X1, Bioenvironmental Engineering and 4T0X1, Laboratory

Train

- Building on existing education and training courses, develop a life-cycle ETE approach to passive defense

Equip

- Establish key performance parameters for passive defense equipment types to ensure new equipment is operationally relevant
- Review C-CBRNE specific Program Elements (PEs) and advocate for full funding
- Advocate for the acquisition and fielding of a capability to quickly analyze CBRNE samples, and support Joint processes

- Advocate for the acquisition and fielding of a theater-wide medical surveillance system, and support Joint processes
- Advocate for the acquisition and fielding of adequate supplies of Federal Drug Administration (FDA)-approved vaccines and prophylaxes, and support Joint processes
- Advocate for the acquisition and fielding of improved contamination avoidance materials, and support Joint processes
- Advocate for the acquisition and fielding of adequate quantities of improved protective equipment (to include heat stress, respiratory, and ocular equipment that meets Air Force unique requirements), and support Joint processes
- Advocate for the acquisition and fielding of improved chemical, biological, and radiological agent detectors that meet Air Force unique operational requirements for operations at a fixed site, and support Joint processes

5.3.13 Consequence Management: Required Capabilities

Consequence management capabilities are those that allow the Air Force to deliberately respond to the use and effects of CBRNE incidents and take the actions required to restore essential operations and services in a permissive environment. The Air Force role in supporting this capability is narrower since many consequence management activities are performed under the leadership of civilian authorities. Capabilities of the DoD to provide assistance to civilian authorities are often further limited by law and policy. The full suite of required Air Force capabilities to support consequence management has yet to be defined.

According to Joint doctrine, the operational capabilities required to support Consequence Management include:

- Provide assistance to affected public, government, and US military installations to reduce a population's vulnerability to the effects of WMD contaminants by:

- Supporting preventive or precautionary measures (e.g., pre-positioning vaccines, first responder equipment, training, personal decontamination supplies; and identifying healthcare facilities)
- Developing and rehearsing response plans/protocols (exercising command and control (C2), engaging in community-based deliberate planning, identifying and training response personnel, determining legal and physical constraints (e.g. Posse Comitatus Act and equipment, manpower, and resource limitations), determining requirements for attribution and legal prosecution, practicing decontamination procedures, and developing reach back capabilities for technical experts)
- Restoring necessary life-sustaining services (e.g., medical care, electrical power, and communications and transportation infrastructure)

5.3.14 Consequence Management: Shortfalls

See Annex C, C-CBRNE Capabilities Shortfalls Annex.

5.3.15 Consequence Management: Tasks

The scope of DoD and Air Force responsibilities in support of consequence management operations, both at home and abroad, is still being defined. Therefore, the immediate course of action is to define the scope of the Air Force role in consequence management and define required operational capabilities to execute it. Once that basis is established, requirements and tasks to fulfill them will be developed and executed.

To improve capabilities in these areas, the following tasks will be executed:

Define

- Define the Air Force role in C-CBRNE consequence management operations

5.3.16 Other Capability Improvements

Some of the capability improvements crosscut the C-CBRNE pillars. These overarching areas include: developing operational standards and

requirements, developing and institutionalizing a lifecycle approach to C-CBRNE ETE, and developing and effectively advocating C-CBRNE investment priorities.

5.3.16.1 Developing Operational Standards and Requirements

The Air Force must develop and validate operational standards for wartime and peacetime C-CBRNE operations, against which success of the CBRNE program will be measured. Keeping with the understanding that C-CBRNE is an enabler rather than a mission, these standards will not be overtly CBRNE related. Instead, the standards will be mission related. For instance, a standard might set the minimum required sortie rate for fighter operations and cargo throughput for air mobility operations. The Air Force must be able to maintain these standards in a CBRNE environment.

Based on these operational standards, the Air Force must develop operational requirements for all capability sets delineated in the Master Plan, and the specific measures of effectiveness (MOEs) by which these will be judged.

The MOEs will not only describe exactly how performance of the solutions is to be judged, but will also define when partial capability is sufficient to have an operational impact. For example, a chemical agent detector that does not meet the detect-to-warn operational requirement may still be of use in unmasking decisions if it detects a sufficiently low level of agent concentration. However, the Air Force must consider whether a detector is operationally relevant if it does not provide the commander with information necessary to determine the risk associated with unmasking.

Tasks:

- Develop operational standards for conducting C-CBRNE operations across the C-CBRNE operational spectrum (proliferation prevention, counterforce, active defense, passive defense, and consequence management)
- Develop operational requirements for all capabilities across the C-CBRNE operational spectrum

Notional example of an operational standard is:

Resume airbase operations within X hours of a CBRNE attack.

Notional examples of operational requirements are:

Proliferation Prevention:	Intercept and deny all international shipments of CBRNE-related equipment, material, and technology.
Counterforce:	Destroy CBRNE-armed mobile missiles within X minutes of detection.
Active Defense:	Destroy X% of incoming CBRNE munitions before the terminal phase.
Passive Defense:	Detect chemical agent at levels below observable effects on the human body in time to allow Airmen to don MOPP-4.

Figure 7 - Operational Standards

5.3.16.2 Establishing and Advocating C-CBRNE Investment Requirements

C-CBRNE is a complex, multidimensional activity that cross-cuts Air Force missions and functional areas. As such, there is no single champion to advocate for and obtain resources to properly equip personnel to fight and win in CBRNE-threat environments. To ensure that C-CBRNE capabilities and associated programs and systems are properly resourced and sustained, the Air Force C-CBRNE community must adopt an integrated, synergistic approach to funding C-CBRNE capability needs. It must institutionalize a process through which operational capabilities that counter the range of CBRNE events are identified and the programs and systems that support them are advocated through the appropriate Air Force and Joint Staff requirements and programmatic channels.

Identifying Investment Requirements: In order to make progress in a resource-constrained environment, the Air Force must set capabilities-based requirements for investment in C-CBRNE research and development efforts and appropriate C-CBRNE programs and systems, to include training and sustainment initiatives. These requirements must represent high-leverage areas in which the Air Force can receive the biggest operational payoff given resource constraints.

Advocating Investment Priorities: The Air Force must then put in place a process through which to advocate these requirements. C-CBRNE capabilities and capability shortfalls are being integrated into the Air Force CONOPS. In addition, base level, MAJCOM, and Air Staff requirements are being advocated through the Air Force Corporate Structure (AFCS) process. Using existing investment mechanisms and structures is the best way to ensure that C-CBRNE requirements are reflected in the Program Objective Memorandum.

The Air Force must also actively participate in existing and future Joint processes, to include the JRO CBRN Defense and the JPEO for Chemical and Biological Defense (JPEO-CBD). The JRO represents the single office within DoD

responsible for the planning, coordination, and oversight of Joint CBRN defense operational requirements and serves as the Chairman of Joint Chiefs of Staff's source of expertise to address all issues involving CBRN defense within passive defense, consequence management, force protection, and homeland security. The Air Force must ensure that its passive defense and consequence management operational requirements are represented to the JRO and integrated into the Joint requirements process.

The JPEO is the principal advocate and single point of contact for all chemical, biological, nuclear, and radiological detection and vaccine and medical diagnostic acquisition efforts within the scope of the JPEO-CBD charter. The Air Force must provide representation to the JPEO and ensure that its C-CBRNE operational acquisition requirements are met through this Joint process.

Tasks:

- Advocate requirements for C-CBRNE investment through Air Force and Joint processes
 - Continue to integrate C-CBRNE capability requirements into the Air Force CONOPS through the CRRA process
 - Continue to provide representation and Air Force operational requirements to the JRO and JPEO
 - Continue to advocate for Air Force funding requirements to the AFCS

5.3.16.3 Establishing a Lifecycle ETE Program

To achieve a full spectrum C-CBRNE operational capability the Air Force must institutionalize a cross-functional, end-to-end (accession to separation or retirement) approach to C-CBRNE education, training, and exercises (ETE). This will enable all Air Force personnel to learn C-CBRNE principles, to train on functional C-CBRNE-related TTPs, and to demonstrate an integrated, whole-base

operational capability assessed through realistic exercises during the standard inspection process.

For the near term, we are establishing the following operational objectives for the Air Force C-CBRNE ETE program:

- Define C-CBRNE competencies and training skill-sets that will inform Air Force ETE institutions
- Develop career-long education curricula critical to teaching C-CBRNE principles, risk management, and decision-making tools
- Analyze opportunities to further expand current passive defense training into individual, functional, senior leader, and specialized training to fill gaps and ensure consistency with C-CBRNE guidance, TTPs, and innovative solutions
- Analyze/create individual, functional, senior leader, and specialized training for proliferation prevention, counterforce, active defense, and consequence management to fill gaps and ensure consistency with C-CBRNE guidance, TTPs, and innovative solutions
- Reinforce skills and knowledge of C-CBRNE operations through realistic exercises/war games that properly capture the impact of CBRNE on airbase-operating environments

5.4 Define, Organize, Train, & Equip Tasks

Section 5.3 outlined the required tasks by capability. The methodology for determining coherent solution sets, however, is independent of capability. For management and oversight of the tasks, it is more efficient to group them into similar types of tasks. The following matrix displays the tasks required to support development of each capability set by C-CBRNE pillar and roadmap categories of Define, Organize, Train, and Equip.

Table 2 STRATEGY-TO-TASK MATRIX			
PILLAR	CAPABILITY	ROADMAP	TASKS
Proliferation Prevention	Prevent & deter the acquisition of CBRNE-related technology & weapons a. Detect, monitor, and attribute CBRNE acquisition, development, & use b. Demonstrate the ability to operate seamlessly with Joint, Combined, & Coalition partners in a CBRNE environment c. Support USG non-proliferation initiatives d. Interdict CBRNE materials	DEFINE	<ul style="list-style-type: none"> Determine Air Force operationally relevant intelligence, surveillance, and reconnaissance requirements and improve and streamline intelligence integration and dissemination Identify Air Force requirements to support the interdiction of CBRNE materials, technologies, and expertise and develop a plan to address gaps
		ORGANIZE	<ul style="list-style-type: none"> Track Air Force contributions to DoD efforts to monitor CBRNE acquisition and development Continue to ensure Air Force compliance with USG and DoD nonproliferation requirements Engage with other Services to ensure a common, interoperable approach to C-CBRNE operations through Joint policy and doctrine Engage with Allies and Coalition partners to ensure a common approach to C-CBRNE operations
		TRAIN	<ul style="list-style-type: none"> Develop a life-cycle ETE approach for relevant proliferation prevention skill-sets (e.g., CBRNE intelligence and imagery analysis, etc.) Engage with Allies and other Services to ensure a common approach to C-CBRNE operations through Joint training and exercises
		EQUIP	<ul style="list-style-type: none"> Acquire and field interoperable equipment and share standards with Allies and Coalition partners

Table 2
STRATEGY-TO-TASK MATRIX

PILLAR	CAPABILITY	ROADMAP	TASKS
Counterforce	Defeat the full-suite of CBRNE materials & capabilities before they can be used against US interests while minimizing collateral damage in the process <ol style="list-style-type: none"> Defeat CBRNE leadership & command and control targets Defeat CBRNE delivery platforms & vehicles Defeat CBRNE-related facilities & infrastructure Defeat in-transit CBRNE materials 	ORGANIZE	<ul style="list-style-type: none"> Develop policy, doctrine and TTPs for C-CBRNE-unique aspects of F2T2 and Engage Develop policy, doctrine and TTPs for C-CBRNE-unique aspects of the Assess portion of the kill-chain (improve capabilities to conduct real-time BDA) Integrate counterforce plans into TTPs, policy and guidance, and any existing CONOPS, to include AOC procedures Improve processes for embedding operational requirements in C-CBRNE science and technology
		TRAIN	<ul style="list-style-type: none"> Develop life-cycle ETE approach for relevant counterforce skill sets (e.g., targeteers, weaponeers, and intelligence analysts)
		EQUIP	<ul style="list-style-type: none"> Acquire and field materiel to support C-CBRNE unique aspects of F2T2 Acquire and field materiel to support C-CBRNE unique aspects of BDA Develop, maintain, and validate planning tools for C-CBRNE effects, modeling, and campaign analysis (to include nodal analysis and collateral damage assessments) Acquire and field interoperable counterforce-related equipment Acquire and field the range of weapon options required to accurately and effectively neutralize, destroy, deny access, or immobilize CBRNE targets (RDT&E to fielding) Acquire and field a range of weapon options to neutralize (render agents ineffective at the molecular/cellular level) the effects of chemical and biological agents
Active Defense	Defeat the full-suite of CBRNE targets en route to US interests while minimizing collateral damage in the process	DEFINE	<ul style="list-style-type: none"> Determine Air Force roles and organizational responsibilities for defeating air and ground inbound CBRNE threats and develop appropriate TTPs Explore requirement for en-route detection and defeat of cruise missiles and low-observable UAVs

**Table 2
STRATEGY-TO-TASK MATRIX**

PILLAR	CAPABILITY	ROADMAP	TASKS
	a. Neutralize ballistic missiles	ORGANIZE	<ul style="list-style-type: none"> Develop policy, guidance, and procedures related to implementation of the ABL in CBRNE active defenses. Coordinate Air Force missile defense efforts and engage with Joint missile defense programs (e.g., MDA)
	b. Neutralize airborne/air-breathing threats	TRAIN	<ul style="list-style-type: none"> Develop life-cycle ETE approach for relevant active defense skill-sets, including ground active defense (e.g., force protection training on indicators and warning for likely biological and chemical weapons)
	c. Neutralize surface forces targeting US interests with CBRNE weapons	EQUIP	<ul style="list-style-type: none"> None identified

Table 2
STRATEGY-TO-TASK MATRIX

PILLAR	CAPABILITY	ROADMAP	TASKS
Passive Defense	Enable & sustain operations in a CBRNE environment with minimal degradation of combat capability <ol style="list-style-type: none"> Shape: Prepare and shape the battlespace Sense: Detect and identify CBRNE use Shield: Shield personnel, equipment, and facilities from CBRNE contamination and effects Sustain: Operate through the attack and quickly restore pre-attack operational capability 	DEFINE	<ul style="list-style-type: none"> Refine the Air Force understanding of the CBRNE hazard environment Assess C-CBRNE capabilities required for homeland security and direct integration into publications as appropriate Determine effective means of decontaminating equipment, to include airframes and direct formulation of policy, doctrine, and TTPs, as appropriate Assess need for C-NW element of the C-CBRNE CONOPS, and develop and implement, if appropriate Define C-HYEW, assess need for C-HYEW element of the C-CBRNE CONOPS, and develop and implement, if appropriate

Table 2
STRATEGY-TO-TASK MATRIX

PILLAR	CAPABILITY	ROADMAP	TASKS
		ORGANIZE	<ul style="list-style-type: none"> • Clarify roles and responsibilities at all levels • Engage with and provide input to Joint and national C-CBRNE passive defense programs (e.g., installation protection programs) to ensure Air Force operational requirements are addressed, and support such programs as required • Incorporate CBRNE defense initiatives, policy, guidance, and TTPs into all relevant Air Force and Joint publications • Support the development, refinement and implementation of all C-CBRNE doctrine, policy and guidance, as well as refinement of conflicting issues (i.e., resolve conflicting guidelines between C-CW and C-BW requirements) • Streamline and improve communication of C-CBRNE related expertise and publications • Refine and implement the C-CW element of the C-CBRNE CONOPS for operations in contaminated environments and ensure it remains current with emerging threats • Develop and implement the C-BW element of the C-CBRNE CONOPS • Develop and implement the C-RW element of the C-CBRNE CONOPS • Refine C-CBRNE related UTCs • Refine policy, guidance and procedures for equipment decontamination • Develop capability and procedures for transporting contaminated/contagious casualties, remains, samples, personnel, and cargo

Table 2
STRATEGY-TO-TASK MATRIX

PILLAR	CAPABILITY	ROADMAP	TASKS
			<ul style="list-style-type: none"> • Improve processes for embedding operational requirements in C-CBRNE science and technology • Monitor and support contributions of Air Force laboratories to Joint passive defense capabilities • Review the shortfalls identified by the JRO CBRN Defense and take actions as appropriate • Develop and refine tools for planning and modeling attacks and assessing hazards and operational impacts, working with the JRO CBRN Defense as appropriate • Assess need and advocate for additional manpower through CBMD process. Focus on career fields that have gained additional duties and have existing manpower shortfalls. Within the non-medical passive defense area, these include AFSC 3E7XX, Fire Protection; 3E8XX, Explosive Ordnance Disposal; and 3E9XX, Readiness; and 4B0X1, Bioenvironmental Engineering. Within the medical corps, these include AFSC 4B0X1, Bioenvironmental Engineering and 4T0X1, Laboratory.
		TRAIN	<ul style="list-style-type: none"> • Building on existing education and training courses, develop a life-cycle ETE approach for passive defense

Table 2
STRATEGY-TO-TASK MATRIX

PILLAR	CAPABILITY	ROADMAP	TASKS
		EQUIP	<ul style="list-style-type: none"> • Establish key performance parameters for passive defense equipment types to ensure new equipment is operationally relevant • Review C-CBRNE specific PEs and advocate for full funding • Advocate for the acquisition and fielding of a capability to quickly analyze CBRNE samples, and support Joint processes • Advocate for the acquisition and fielding of a theater-wide medical surveillance system, and support Joint processes • Advocate for the acquisition and fielding of FDA-approved vaccines and prophylaxes, and support Joint processes • Advocate for the acquisition and fielding improved contamination avoidance materials, and support Joint processes • Advocate for the acquisition and fielding of adequate quantities of improved protective equipment (to include heat stress, respiratory, and ocular equipment that meets Air Force unique requirements), and support Joint processes • Advocate for the acquisition and fielding of improved chemical, biological, and radiological agent detectors that meet Air Force unique operational requirements for operations at a fixed site, and support Joint processes

Table 2 STRATEGY-TO-TASK MATRIX			
PILLAR	CAPABILITY	ROADMAP	TASKS
Consequence Management	Provide the combatant commander with the ability to deliberately respond to the use and effects of a CBRNE incident and to restore essential operations and services in a permissive environment	DEFINE	<ul style="list-style-type: none"> Define Air Force role in C-CBRNE consequence management operations
		ORGANIZE	<ul style="list-style-type: none"> None identified
		TRAIN	<ul style="list-style-type: none"> None identified
		EQUIP	<ul style="list-style-type: none"> None identified
All Pillars	All Capabilities (cross-cutting)	DEFINE	<ul style="list-style-type: none"> Develop operational standards for conducting C-CBRNE operations across the C-CBRNE operational spectrum (proliferation prevention, counterforce, active defense, passive defense, and consequence management) Develop operational requirements for all capabilities across the C-CBRNE operational spectrum
		ORGANIZE	<ul style="list-style-type: none"> None identified
		TRAIN	<ul style="list-style-type: none"> Define C-CBRNE capabilities and desired effects, competencies, and training skill sets that will inform Air Force ETE institutions Develop career-long education curricula critical to teaching C-CBRNE principles, risk management, and decision-making tools Analyze opportunities to further expand current passive defense training into individual, functional, senior leader, and specialized training to fill gaps and ensure consistency with C-CBRNE guidance, TTPs, and innovative solutions Analyze/create individual, functional, senior leader, and specialized training for proliferation prevention, counterforce, active defense, and consequence management to fill gaps and ensure consistency with C-CBRNE guidance, TTPs, and innovative solutions Reinforce skills and knowledge of C-CBRNE operations through realistic exercises/war games that properly capture the impact of CBRNE on airbase-operating environments

Table 2
STRATEGY-TO-TASK MATRIX

PILLAR	CAPABILITY	ROADMAP	TASKS
		EQUIP	<ul style="list-style-type: none"> • Continue to advocate requirements for C-CBRNE investment through Air Force and Joint processes • Fund the acceleration of ETE initiatives to permit the integration of C-CBRNE capabilities sets into mainstream Air Force culture

6 Master Plan Execution

At the Air Staff level, AF/XO, AF/IL, AF/XP, AF/SG, AFOSI, SAF/AQ, SAF/IA, and Field Operating Agencies supporting these organizations play a key role in the Air Force C-CBRNE program. Their authorities and responsibilities, as well as those of the MAJCOMs are outlined in AFPD 10-26, *C-CBRNE Operations*, which provides the general C-CBRNE responsibilities within the Air Force. In addition to the responsibilities outlined in that document, the following apply to execution of this Master Plan.

6.1 The USAF C-CBRNE Council

The USAF C-CBRNE Council is chartered by the Air Force Assistant Vice Chief of Staff (AF/CVA) to address Air Force-wide issues related to countering the CBRNE threat on an ongoing basis. It supports measures to organize, train and equip Air Force forces commensurate with the guidance set forth in the National Security Strategy, National Strategy to Combat WMD, Quadrennial Defense Review (QDR), Strategic Planning Guidance, Joint Programming Guidance, and other strategic-level policy documents.

Accordingly, the Council, chaired by AF/XOS, will oversee execution of this plan.

The Council will report annually to the Chief of Staff on the execution of this Master Plan. The annual report will include:

- General assessment of the state of Air Force C-CBRNE capabilities
- Improvements in C-CBRNE capabilities achieved over the course of the year
- Progress achieved in each task
- Identification of programmatic obstacles that are preventing or slowing execution of the plan
- Plans for the coming year, including major milestones to be achieved
- Other issues as deemed necessary

The Council may also, as required, report more frequently to the Chief of Staff on specific issues that require resolution.

The Council will direct the development of the four roadmaps: Define, Organize, Train, and Equip. The Council has the authority to add, update, and amend these roadmaps and the annexes to this plan. The Council will review the roadmaps and annexes at least annually, changing them as appropriate.

The Council may, consistent with its charter, appoint working groups and study teams to oversee implementation of roadmaps. The C-CBRNE Council Charter is in Annex D, HQ USAF C-CBRNE Council Charter.

The Council may appoint Air Force elements to serve as task OPRs and OCRs, consistent with their responsibilities in AFPD 10-26 and AFPD 10-25. The Council may directly task OPRs to report periodically on the execution of their tasks and may add or alter tasks as needed.

6.2 Policy Working Group (PWG)

The PWG is the primary working group of the C-CBRNE Council and carries out taskings assigned to it by the C-CBRNE Council. Working Group Members represent their functional organizations and collaborate to provide coordinated responses on C-CBRNE programs, processes, and issues.

The AFRL will serve as Scientific and Technical Advisor to the PWG. Field Operating Agencies will provide additional support as required.

6.3 AF/XOS-NC

As Executive Secretary to the C-CBRNE Council, AF/XOS-NC will serve as the executive agent for implementing decisions of the Council, coordinate the execution of tasks in the roadmaps, and prepare reports to the Chief of Staff.

AF/XOS-NC will receive the quarterly and annual progress reports from the task OPRs and present them to the PWG prior to briefing the

Council, except where the Council directs the Task OPR to report directly.

6.4 Task OPRs

The OPR for each task is recommended by the PWG and appointed by the C-CBRNE Council. OPR-ship will be consistent with roles and responsibilities outlined in Air Force policy and doctrine. The specific OPR for assignments for each task are listed in the respective roadmap.

OPRs are responsible for coordinating the execution of their tasks and reporting the status to the PWG, and then to the Council. Quarterly reports should contain:

- Progress achieved
- Identification of programmatic obstacles that are preventing or slowing execution of the task
- Recommended changes to the task scope, sub-tasks, and metrics
- Recommendations for additional or follow-on tasks
- Other issues it deems necessary

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B. Glossary

Abbreviations and Acronyms

AB	Air Base
ABC	Anti-Biological Chemical
ABCA	America, Britain, Canada, and Australia
ABL	Airborne Laser
AC2ISRC	Aerospace Command and Control Intelligence, Reconnaissance, and Surveillance Center
ACC	Air Combat Command
ACTD	Advanced Concept Technical Demonstration
ADI	Agent Defeat Initiative
ADW	Agent Defeat Weapon
AEF	Air Expeditionary Force
AETC	Air Force Education and Training Command
AFB	Air Force Base
AFCESA	Air Force Civil Engineer Support Agency
AFCS	Air Force Corporate Structure
AF/CVA	Air Force Assistant Vice Chief of Staff
AFDD	Air Force Doctrine Document
AFI	Air Force Instruction
AF/IL	Air Force Deputy Chief of Staff for Installations and Logistics
AFIT	Air Force Institute of Technology
AFMAN	Air Force Manual
AFMC	Air Force Material Command
AFMSA	Air Force Medical Support Agency
AFNWCA	Air Force Nuclear Weapons & Counterproliferation Agency
AFOATS	Air Force Officer Accession Training School

AFOMS	Air Force Occupational Measurement Squadron
AFOSI	Air Force Office of Special Investigations
AFOTEC	Air Force Operational Test and Evaluation Center
AFPD	Air Force Policy Directive
AFRC	Air Force Reserve Command
AFRL	Air Force Research Laboratory
AFROC	Air Force Requirements Oversight Council
AFROTC	Air Force Reserve Officer Training Corps
AFS	Air Force Specialty
AFSC	Air Force Specialty Code
AF/SG	Air Force Surgeon General
AFVA	Air Force Visual Aid
AFWI	Air Force Wargaming Institute
AF/XO	Air Force Deputy Chief of Staff for Air and Space Operations
AF/XOS-NC	Air Force C-CBRNE Operations Division
AF/XP	Air Force Deputy Chief of Staff for Plans and Programs
AMC	Air Mobility Command
ANG	Air National Guard
ANGB	Air National Guard Base
AOC	Air and Space Operations Center
AT	Antiterrorism
ATO	Air Tasking Order
AU	Air University
BDA	Battle Damage Assessment
BEDAL	Baseline Equipment Database Assessment List
BMT	Basic Military Training
BOI	Basis of Issue
BOS	Base Operating Support
BW	Biological Warfare
C2	Command and Control

C4ISR	Command, Control, Communications, Computer and Intelligence, Surveillance and Reconnaissance
CB	Chemical and Biological
CBMD	Capabilities Based Manpower Determinant
CBRNE	Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives. The Air Force term for the Joint term, Weapons of Mass Destruction, and their means of delivery (WMD/M)
C-BW	Counter-Biological Warfare
CCAF	Community College of the Air Force
C-CBRNE	Counter-Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives
C-CW	Counter-Chemical Warfare
CDD	Capabilities Development Document
CENTCOM	United States Central Command
CFETP	Career Field Education and Training Plan
CFM	Career Field Manager
CHEMRAT	Chemical Hazards Estimation Method and Risk Assessment Tool
C-HYEW	Counter-High-Yield Explosive Weapons
CIG	Curriculum Integration Group
CIIT	Capabilities Improvement Initiative Team
CMMI	Capability Maturity Model Integration
C-NBC	Counter-Nuclear, Biological, and Chemical
C-NW	Counter-Nuclear Warfare
CONEMPS	Concept of Employment
CONOPS	Concept of Operations
CONUS	Continental United States
COTS	Commercial Off-the-Shelf
CP	Counterproliferation

CRD	Capstone Requirements Document
CRE	Control Reporting Element
CRG	Contingency Response Group
CRRA	Capabilities Review and Risk Assessment
C-RW	Counter Radiological Weapons
CSAF	Chief of Staff, United States Air Force
CTCC	Counterproliferation Technology Coordination Committee
CWDE	Chemical Warfare Defense Equipment
CY	Calendar Year
DCA	Defensive Counterair
DHS	Department of Homeland Security
DIRMOBFOR	Director of Mobility Forces
DLO	Desired Learning Objective
DOD	Department of Defense
DODD	Department of Defense Directive
DOE	Department of Energy
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership, Personnel and Facilities
DRUs	Direct Reporting Units
DTRA	Defense Threat Reduction Agency
ECD	Estimated Completion Date
ECM	Enhanced Cruise Missile
EET	Exercise Evaluation Team
ELM	Empirical Lethality Models
EOD	Explosive Ordnance Disposal
EPP	Enhanced Planning Process
ESL	Equipment and Supply List
ETE	Education, Training, and Exercises
EUCOM	United States European Command
EZ	Exchange Zone
F2T2EA	Find, Fix, Track, Target, Engage, Assess
FAMs	Functional Area Managers

FBI	Federal Bureau of Investigation
FDA	Federal Drug Administration
FOAs	Field Operating Agencies
FOC	Final Operational Capability
FSTFIRE	Full-Spectrum Threat Fire Response Ensemble
FSTR	Full-Spectrum Threat Reduction
FTX	Field Training Exercise
FY	Fiscal Year
GAS	Graduate Analysis Surveys
GENIE	Generic In-situ Emplacement Technologies
GIS	Geographic Information System
GOTS	Government Off-the-Shelf
HAF	Headquarters Air Force
HAZMAT	Hazardous Material
HDBT	Hardened and Deeply Buried Target
HHS	Department of Health and Human Services
HQ	Headquarters
HTI	High Temperature Incendiary
HVAC	Heating, Ventilation, and Air-Conditioning
IAW	In Accordance With
IBD	Integrated Base Defense
ICD	Initial Capabilities Document
IG	Inspector General
IOC	Initial Operational Capability
IPE	Individual Protective Equipment
IPT	Integrated Process Team
IQT	Initial Qualification Training
ISR	Intelligence, Surveillance, and Reconnaissance
JDIGS	Joint EOD Digital Reporting and Tracking System
JFCOM	Joint Forces Command
J-FIRE	Joint Firefighter's Integrated Response Ensemble
JMECC	Joint Military Education Coordinating Council
JOC	Joint Operations Center
JPEO	Joint Program Executive Office

JRO CBRN Defense	Joint Requirements Office, Chemical, Biological, Radiological, and Nuclear Defense
JS	Joint Staff
JSIPP	Joint Service Installation Protection Program
KFE	Kunsan Focused Effort
KPP	Key Performance Parameter
LFADD	Large-Framed Aircraft Decontamination Demonstration
MAJCOM	Major Command
MCL	Master Capabilities Library
MDA	Missile Defense Agency
MISCAPS	Mission Capabilities
MOE	Measure of Effectiveness
MOOTW	Military Operations Other Than War
MOPP	Mission-Oriented Protective Posture
MOU	Memoranda of Understanding
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, and Chemical
NBCC	Nuclear, Biological, Chemical, and Conventional
NDU	National Defense University
NORTHCOM	United States Northern Command
O&M	Operations and Maintenance
OCA	Offensive Counterair
OCONUS	Outside the Continental United States
OCR	Office of Collateral Responsibility
OEA	Operational Effectiveness Assistance
OJT	On-the-Job Training
OPLAN	Operations Plan
OPR	Office of Primary Responsibility
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation

OTS	Officer Training School
PACOM	United States Pacific Command
PAIO	Program Analysis and Integration Office
PE	Program Element
PFE	Promotion Fitness Examination
PME	Professional Military Education
POC	Point of Contact
POM	Program Objective Memorandum
PRP	Personnel Reliability Program
PWG	Policy Working Group
RAF	Royal Air Force
RAT	Risk Assessment Team
RDA	Research, Development, and Acquisition
RDT&E	Research, Development, Test, and Evaluation
RESTOPS	Restoration of Operations
ROE	Rule of Engagement
ROKAF	Republic of Korea Air Force
ROM	Restriction of Movement
S&T	Science and Technology
SAF	Secretary of the Air Force
SAF/AQ	SAF/Office of the Assistant Secretary for Acquisition
SAF/IA	SAF/Deputy Under Secretary for International Affairs
SEWG	Security Engineering Working Group
SHAPE	Supreme Headquarters Allied Powers, Europe
SME	Subject Matter Expert
SMY	Student Man Year
RNEP	Robust Nuclear Earth Penetrator
SORTS	Status of Requirements and Training System
STANAGs	Standardization Agreement (NATO)
TIC	Toxic Industrial Chemical
TIM	Toxic Industrial Material
TOAST	Thermal Overkill Agent Simulant Test

TPFDD	Time-Phased Force Deployment Data
TPM	Training Pipeline Manager
TQT	Task Qualification Testing
TTPs	Tactics, Techniques, and Procedures
TTX	Table Top Exercise
U&TW	Utilization and Training Workshop
UAVs	Unmanned Aerial Vehicles
UJTL	Universal Joint Task List
UK	United Kingdom
USACMLS	United States Army Chemical School
USAF	United States Air Force
USAFA	United States Air Force Academy
USAFE	United States Air Forces in Europe
USCG	United States Coast Guard
USG	United States Government
USMC	United States Marine Corps
USN	United States Navy
UTC	Unit Type Code
WG	Working Group
WMD	Weapons of Mass Destruction

Glossary of Terms

Active Air Defense	Direct defensive action taken to destroy, nullify, or reduce the effectiveness of hostile air and missile threats against friendly forces and assets. It includes the use of aircraft, air defense weapons, electronic warfare, and other available weapons. (JP 1-02)
Active Defense	The employment of limited offensive action and counterattacks to deny a contested area or position to the enemy. (JP 1-02) With respect to active defense against CBRNE threats, it is the detection, diversion, or destruction of enemy CBRNE weapons and delivery means while en route to their targets.
Active Force Protection	Measures to defend against or counter a perceived or actual threat and, if necessary, to deny, defeat, or destroy hostile forces in the act of targeting Air Force assets. (AFDD 2-4.1)
Battlespace	The environment, factors, and conditions that must be understood to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain; the electromagnetic spectrum; and the information environment within the operational areas and areas of interest. (JP 1-02)
CBRNE Environment	A condition in which an adversary possesses or uses chemical, biological, radiological, nuclear, or high-yield explosive weapons. (AFDD 2-1.8) (draft)
Command and Control	The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. (JP 1-02)
Consequence Management	Deliberate response to the use and effects of CBRNE incidents and the actions required to restore essential operations and services in a permissive environment. (AFDD 2-1.8) (draft)
Counterforce	The employment of strategic air and missile forces in an effort to destroy, or render impotent, selected military capabilities of an enemy force under any of the circumstances by which hostilities may be initiated. For the purposes of this document, counterforce refers especially to enemy CBRNE capabilities. (JP 1-02)
Counterproliferation	Those actions (e.g., detect and monitor, offensive operations, active defense, and passive defense) taken to defeat the threat and use of WMD against the United States, our military forces, friends, and Allies. (JP 3-40 PAD)
Intelligence, Surveillance and Reconnaissance	Integrated capabilities to collect, process, exploit and disseminate accurate and timely information that provides the battlespace awareness necessary to successfully plan and conduct operations. (AFDD 2-5.2)

Nonproliferation	Those actions (e.g., diplomacy, arms control, multilateral agreements, threat reduction assistance, and export controls) taken to prevent the proliferation of WMD distribution of, sensitive technologies, material, and expertise. (JP 3-40 PAD)
Passive Defense	Measures taken to reduce the probability of and to minimize the effects of damage caused by hostile action without the intention of taking the initiative. (JP 1-02) Measures taken to reduce the vulnerability and minimize the effects of WMD employed against key host nation installations, any US installation and facility, and ports of embarkation and debarkation. Combatant commanders should initiate WMD consequence management planning and integration. Combatant commanders should employ measures that may include early and avoidance warning, operations security, dispersion, individual and collective protection, WMD medical response, detection, reporting, and decontamination. (JP 3-40 PAD) With respect to passive defense against CBRNE threats, it is the protection of forces and assets against CBRNE effects to minimize the loss of operational capability and enhance mission continuity. Elements of passive defense include contamination avoidance (including detection, identification, and warning, and medical surveillance), individual and collective protection (including hardening), contamination control (including disease prevention), and response to high-yield explosives. (AFPD 10-26) (draft)
Proliferation Prevention	Deterring and/or denying attempts by would-be proliferants to acquire or expand their CBRNE capabilities. (AFDD 2-1.8) (draft) See also <i>Nonproliferation</i> .

C. C-CBRNE Capabilities Shortfalls Annex

Classified annex, published separately.

D. HQ USAF C-CBRNE Council Charter

Purpose

At the direction of the Assistant Vice Chief of Staff of the Air Force (AF/CVA), the HQ USAF Counterproliferation Integrated Process Team (CP IPT) is renamed the C-CBRNE Council and is chartered to address USAF-wide issues related to countering the chemical, biological, radiological, nuclear, and high-yield explosive threat on an ongoing basis.

CBRNE weapons are a threat to the USAF's ability to operate. The USAF will develop its capabilities to counter use or threatened use of CBRNE weapons and to mitigate their effects when and wherever they might be used against US national interests in the homeland and overseas. To accomplish its missions, the USAF must organize, train, and equip to survive and operate in all environments, to include CBRNE environments.

The C-CBRNE Council will support measures to organize, train and equip USAF forces commensurate with the guidance set forth in the National Security Strategy, National Strategy to Combat WMD, Quadrennial Defense Review, Defense Planning Guidance, and other strategic-level policy documents.

Scope

The C-CBRNE Council will address USAF actions to counter CBRNE through proliferation prevention, counterforce, active defense, passive defense, and crisis/consequence management. The Council will oversee USAF C-CBRNE issues to maximize warfighting capabilities and support lead Federal agencies if tasked and available. The Council will address C-CBRNE issues brought before it by its members or submitted through the Council's Policy Working Group (PWG).

Authority

Chartering authority is AF/CVA. AF/XOS is the USAF focal point for C-CBRNE and will chair the Council. Members represent their organizations and provide coordinated responses on C-CBRNE issues. Taskings may originate from the Chair, any member of the Council, or from the PWG. Decisions will be by consensus and will not replace the normal staff action process.

Objectives

AF/XOS will lead the C-CBRNE Council to accomplish the following objectives:

- Disseminate and track implementation of decisions on C-CBRNE issues across the full USAF operational spectrum
- Monitor USAF C-CBRNE activities to ensure that they support C-CBRNE objectives and strategic vision
- Advocate and monitor the development and implementation of C-CBRNE concepts of operation and operational standards
- Advocate C-CBRNE resources, systems, and programs that support USAF operational capabilities (i.e., proliferation prevention, counterforce, active defense, passive defense, crisis/consequence management)
- Coordinate the development and implementation of C-CBRNE-related actions under way within the Joint Staff, the Office of the Secretary of Defense, and the Interagency
- Monitor doctrine, policy, training, and exercises to ensure that they address existing and emerging CBRNE threats
- Improve the capabilities of USAF forces to detect, locate, and neutralize/destroy CBRNE threats and mitigate the consequences of neutralization/destruction actions

-
- Improve communication and awareness on C-CBRNE operational issues across the USAF
 - Liaison with Force Protection Working Group and Threat Working Group to eliminate duplication and fill critical gaps

Membership, Frequency

The C-CBRNE Council is chaired by AF/XOS. The following are members:

- AF/ILE
- AF/SGO
- AF/XOS-H
- AF/XOS-F
- SAF/AQP
- SAF/IGI
- Other members, as required and determined by the Council

Member organizations may designate O-6/division chief-level officers to represent their three-letter office at Council meetings. The Council will meet quarterly, and may meet more frequently as required and directed by the Chair.

The Air Force Research Laboratory will serve as Scientific and Technical Advisor to the Council. Field Operating Agencies will provide additional support as required.

Executive Secretariat

AF/XOS-NC will serve as the Executive Secretary of the C-CBRNE Council. The Executive Secretary will provide day-to-day support to the Council and any other working groups or study teams established by the Council.

The Executive Secretary will:

- Chair the PWG
- Provide administrative support to the Council (including any other working groups or study teams) as required
- Prepare for Council meetings to include coordinating dates and developing agendas based on member inputs
- Publish and disseminate Council meeting agendas and reports
- Publish and disseminate minutes of Council meetings
- As directed, transmit Council recommendations to the AF/CVA

Working Group Structure

The Council establishes the C-CBRNE PWG to carry out taskings of the Council. AF/XOS-NC will chair the PWG. The PWG will provide direction and prioritization to develop and refine USAF C-CBRNE policy. The specific responsibilities and procedures of the PWG will be outlined in a separate charter.

Member organizations may designate O-5/branch chief-level officers to represent their four-letter office at PWG meetings.

The Council will establish additional working groups as required. Working groups may establish study teams around specific issues.

References

DoDD 2060.2, (DoD Counterproliferation Implementation)
DoDI 2000.18 (DoD Installation CBRNE Emergency Response Guidelines)
CJCSI 5113.02A (CJCS Counterproliferation Charter)
CJCS CONPLAN 0400-00
Air Force Counterproliferation (CP) Master Plan
Air Force Doctrine Document 2-1.8, C-NBC Operations
AFPD 10-25, Air Force Full Spectrum Threat Response
AFPD 10-26, Counter-Nuclear, Biological, and Chemical Operational Readiness
AFPD 10-8, Homeland Security

HQ USAF C-CBRNE Council Policy Working Group Charter

PURPOSE

At the direction of the HQ USAF Counter-Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (C-CBRNE) Council, the Policy Working Group (PWG) is chartered to carry out the taskings of the C-CBRNE Council and to monitor all cross-functional USAF C-CBRNE policy initiatives.

AUTHORITY

Chartering authority for the PWG is the HQ USAF C-CBRNE Council. The PWG receives taskings from the C-CBRNE Council and will report its activities regularly at Council meetings. Decision-making will be by consensus and will not replace the normal staff action process. PWG may establish Study Teams and assign C-CBRNE Council actions for research and analysis.

OBJECTIVES

The objectives of the PWG are to:

- Act as an advisory panel to the Council on all C-CBRNE issues
- Develop and coordinate the implementation of USAF C-CBRNE policy, doctrine, and guidance in support of the CSAF CONOPS
- Develop and coordinate the implementation of USAF C-CBRNE concepts of operation
- Develop and coordinate the implementation of USAF C-CBRNE lifecycle education, training, and exercise standards
- Provide a cross-functional group to consolidate USAF positions and requirements for C-CBRNE programs
- Function as the primary working group of the C-CBRNE Council
- Prioritize effort of and support the Study Teams and OPRs as appropriate

RESPONSIBILITIES

The PWG will carry out taskings assigned to it by the C-CBRNE Council. The PWG is responsible for the following activities:

- Coordinating the development and implementation of C-CBRNE strategic plans and objectives
- Establishing USAF C-CBRNE policy, doctrine, and guidance
- Coordinating USAF C-CBRNE requirements and program initiatives
- Directing and overseeing the conduct of operational analyses in support of the development of C-CBRNE concepts of operation
- Integrating USAF CBRNE Science and Technology Community along Council approved priorities/vision
- Coordinating and monitoring USAF implementation of C-CBRNE concepts of operation
- Establishing and coordinating USAF positions on C-CBRNE issues for Council consideration

MEMBERSHIP

Working Group Members represent their functional organizations and collaborate to provide coordinated responses on C-CBRNE programs, processes, and issues.

Working Group members include:

- AF/XOS-NC - Chair

- AF/SGOP
- AF/ILEX
- AF/XOS-HC
- AF/XOS-FP
- SAF/AQPC
- SAF/AQRT
- SAF/IGI
- Other members as determined by the PWG

Member organizations may designate appropriate action officers to represent their four-letter office at PWG meetings.

The Air Force Research Laboratory will serve as Scientific and Technical Advisor to the PWG. Field Operating Agencies will provide additional support as required.

RULES OF ENGAGEMENT

- **Agenda items:**
 - AF/XOS-NC will announce meetings and circulate a draft agenda ten working days before each regularly scheduled PWG meeting
 - The PWG agenda will include recurring items, including review and approval of draft working group reports to the Council; prioritization, review, and approval of study team progress reports to the Council; review and approval of study team work plans; review of the status of Council taskings; and discussion of agenda items for the next PWG meeting
 - Members may nominate additional issues for consideration as PWG agenda items
 - Members nominating agenda items will provide all necessary read-ahead and supporting documentation to PWG members NLT three working days before each meeting
 - Members will develop the PWG items for inclusion in the C-CBRNE Council agenda
- **Meeting Management:**
 - Member representatives attending each meeting will present their organizations' positions on matters before the PWG
 - The PWG will address each issue on its agenda and arrive at an agreed upon position on the basis of consensus
 - Issues not resolved by the PWG will be referred to the Council for resolution
- **Referring unresolved issues to the Council:**
 - When consensus on an issue is not achieved at the PWG, dissenting parties will develop position papers in preparation for C-CBRNE Council review
 - The Executive Secretary will prepare a composite issue paper with recommendations for each unresolved PWG agenda item based on position papers prepared by members
 - Composite issue papers will be provided to PWG members for coordination NLT 10 working days before each Council meeting. Final drafts of composite issue papers will be distributed to Council members NLT five working days before each Council meeting

REFERENCES

DoDD 2060.2, (DoD Counterproliferation Implementation)
DoDI 2000.18 (DoD Installation CBRNE Emergency Response Guidelines)
CJCSI 5113.02A (CJCS Counterproliferation Charter)
CJCS CONPLAN 0400-00
Air Force Counterproliferation (CP) Master Plan
Air Force Doctrine Document 2-1.8, C-NBC Operations
AFPD 10-25, Air Force Full Spectrum Threat Response
AFPD 10-26, Counter-Nuclear, Biological, and Chemical Operational Readiness
HQ USAF C-CBRNE Council Charter

HQ USAF C-CBRNE Council Rules Of Engagement

PURPOSE: Determine how the HQ USAF C-CBRNE Council will identify issues, make decisions, and implement them

BACKGROUND

- C-CBRNE Council Charter designates AF/XOS as the chair, with members from several Air Staff and Secretariat directorates
- A Policy Working Group chaired by AF/XOS-NC with members from AF/ILEX, AF/SGOP, AF/XOS-HC, AF/XOS-FP, SAF/AQPC, SAF/AQRT, and SAF/IGI supports the Council

DISCUSSION

- **Proposed ROE to identify issues:**
 - AF/XOS will announce meetings and circulate a draft agenda 15 working days before scheduled meetings, inviting members to nominate additional issues. Agenda will include some recurring items including working group reports
 - Using inputs from members and the Policy Working Group, ten working days before the meeting, AF/XOS will determine final agenda and identify OPRs to prepare and provide read-ahead issue papers
- **ROE to make decisions:**
 - Members attending the meeting will present their organizations' positions
 - The Council will address each issue and arrive at a Council decision
 - Issues not resolved at the meeting will be referred to the Policy Working Group, who will prepare issue papers and recommendations for Council members' consideration.
- **ROE to implement decisions:**
 - Within five working days following each Council meeting, minutes documenting decisions and assigning taskings will be circulated to members
 - Review of minutes will be coordinated within members' organizations as desired

Members' approval of minutes will confirm acceptance of task